

Madras Observatory

THE ORIGINAL

ASTRONOMICAL OBSERVATIONS,

MADE IN THE COURSE OF

A VOYAGE towards the SOUTH POLE,

AND

ROUND THE WORLD,

In his MAJESTY'S Ships the RESOLUTION and ADVENTURE,

In the Years MDCCLXXII, MDCCLXXIII, MDCCLXXIV, and MDCCLXXV,

By WILLIAM WALES, F. R. S.

Master of the Royal Mathematical School in Christ's Hospital;

And Mr. WILLIAM BAYLY,

Late Assistant at the Royal Observatory.

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MDCCLXXVII.

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PLATE III. to face p. 96.

PLATE IV. to face 346.

I N T R O D U C T I O N.

AT the time when the Voyage was first planned that gave birth to the following Observations, it had long been the opinion of learned men, that there must be vast tracts of land, at that time undiscovered, towards the South Pole. The probability of this opinion induced his Majesty to fit out two ships, the Resolution and Adventure, to determine this interelling point in Geography, amongst many others, equally curious, although not altogether so important as this. But it is not to be supposed that this opinion had any other foundation than mere probability: The Mathematical, or Philosophical reasons, which had from time to time been offered to the Public, having no foundation in nature; and the notion which some persons have got concerning the necessity of a counterpoise, is so very unphilosophical, that I am much surpris'd how so many ingenious Gentlemen have happened to adopt it. It is well known to Mathematicians, that every body, while at rest, however irregular, will be *in equilibrio*, when suspended on any line that passes through its center of gravity; nor will the revolution of a body, thus circumstanced, about an axis, be disturbed hereby, if the irregularities lie in the direction of its axis of rotation, as they are supposed to do in the case before us: if, indeed, they lie in any other direction, the matter will be different; but even then they must be much greater than any mountains that we know of to cause a sensible aberration in the axis of the earth.

If now, to an irregular mass of rigid matter, circumstanced as our earth is, there be added a quantity of matter perfectly fluid, it

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is well known, that it will distribute itself into the vallies, or rather along those parts of the rigid matter which are nearest to the center of gravity, without any regard to the center of the mass; and consequently, if there be not a sufficiency of the fluid matter to overflow and cover the whole, those parts will be last covered which are towards that part of the globe, or body, which is least dense; and this might be the case even if the globe was a perfect sphere, without any irregularities in its surface. The same purpose might be effected, though perhaps in a more limited degree, merely by irregularities of the surface, even if the earth was every where equally dense. At the same time it is proper to observe, that, although there is no necessity, yet it was highly probable, before this experiment was made, that the irregularities both of density and surface might be nearly equal in both hemispheres; and on that foundation alone, I believe, the Voyage was ordered to be undertaken.

As soon as the Voyage was determined on, the Commissioners of Longitude, ever attentive to the improvement of Science, came to a resolution of sending out two persons, one in each ship, to make such observations as appeared to them most conducive to the advancement of useful knowledge, and were pleased to appoint Mr. WILLIAM BAYLY, late assistant at the Royal Observatory, and myself, for that purpose; at the same time, furnishing us with every instrument necessary for the undertaking, of the best sort, and constructed by the most approved makers, a list of which follows.

1. A Portable Observatory.
2. An Astronomical Clock, made by Mr. Shelton.
3. An assistant Clock, made by Mr. Monk.

4. A Transit

TO THE RIGHT HONOURABLE

J O H N Earl of S A N D W I C H,

First Commissioner of the Boards of ADMIRALTY and
LONGITUDE, &c. &c. &c.

M Y L O R D,

IT affords me the highest Satisfaction that I am permitted to address the following Sheets to your LORDSHIP, as the Patronage of a Nobleman to whom these Sciences, and Literature in general, owe so much, and to whom this Work in a peculiar Manner appertains, will undoubtedly secure to it a favourable Reception from all Persons of Taste and Learning. It is indeed to your LORDSHIP, and the other Honourable and Learned Gentlemen who constitute the Board of Longitude, that the Existence of this Work is to be attributed; and to the same fostering Care and generous Encouragement we are indebted for the present Accuracy of our Instruments, the Correctness of our Tables, and I may with Truth add, the Skill and Dexterity of the intelligent Mariner, who now makes those Observations with a Degree of Success, which a few Years ago was despaired of.

That

DEDICATION.

That your LORDSHIP may long enjoy the high and important Offices, which you now fill so much to the Honour and Interest of the Nation, and to the Advancement of every useful Art and Science, is, I am well assured, the sincere Wish of every Friend to the true Interests of this great Empire, and of none more than of,

MY LORD,

Your LORDSHIP's much obliged,

most obedient, and

faithful humble Servant,

CHRIST'S HOSPITAL,
April 26th, 1777.

WILLIAM WALES.

INTRODUCTION.

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4. A Tranfit Instrument, made by the late Mr. Bird.
 5. An Astronomical Quadrant, made by the same excellent artist.
 6. A Reflecting Telescope, of two feet focal length, made by the same.
 7. An achromatic Refracting Telescope, of $3\frac{1}{2}$ feet, and triple object glafs, made by Mr. Dollond.
 8. An achromatic divided Object-glafs, micrometer to ditto, made by Mr. Dollond.
 9. A Hadley's Sextant, made by the same.
 10. Another, made by Mr. Ramsden.
 11. An Azimuth Compafs, made by Mr. Adams.
 12. A pair of Globes, made by ditto.
 13. A Dipping Needle, made by Mr. Nairne.
 14. A Marine Barometer, by ditto.
 15. A Wind Gage, invented by Dr. Lind of Edinburgh, and made by Mr. Nairne.
 16. Two Portable Barometers, made by Mr. Burton.
 17. Six Thermometers, made by ditto.
 18. A Theodolite, with a level, and a Gunter's Chain, made by the same.
 19. An Apparatus for trying the heat of the sea-water at different depths.
 20. Two Time-keepers, one made by Mr. Larcum Kendall, on Mr. Harrifon's principles, and the other by Mr. John Arnold.
- Mr. Bayley had a duplicate of each of the above instruments, excepting the Tranfit-instrument, which was to be used in common
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by each of us; and that both his Time-keepers were made by Mr. Arnold. The following account of these articles will not, I presume, be unacceptable.

Of the Observatory.

The Observatory was contrived by my associate Mr. W. Bayly, and is undoubtedly one of the most convenient portable Observatories that has yet been made. The upright sides consist of eight staves, *AB*, *CD*, &c. (see Plate II.) about two inches diameter, and five feet and an half long, which supported a circular ring, 1, 2, 3, 4, &c. to 21. of eight feet diameter, and the covering, *r*, *q*, 9, 10, &c. to 21. *o*, *p*, of oiled canvass. The staves are of beach-wood, armed at the bottom with spikes, to stick into the ground, and at the top with small iron pins, fitted to holes which are made to receive them in the ring. The ring is composed of eight circular arches, of about three feet long, two inches broad, and an inch thick, made of beach-wood, and are readily put together, or taken asunder by means of strong iron plates, screwed fast with wood screws to the end of one arch, and by screws and nuts to the end of another, for the purpose of frequent screwing and unscrewing without danger of wearing out the holes, as would be the case with wood screws entering the wood itself. Into the outer edge of this ring are drove small staples, 1, 2, 3, 4, &c. and to the upper edge of the canvass, answerable thereto, are sewed several small hooks, which being hooked into these staples, serve to support the upper edge of the canvass, while its lower edge just reaches to the ground: The two parts of the canvass, 2, 1, *o*, *p*; 9, *q*, *r*, are supposed to be unhooked from the staples 1, 2, 3, 4, and 5, 6, 7, 8 respectively, and thrown back to shew the inside of the Observatory, and the manner of fixing up the Clock, to be described hereafter: *BE* is a brace of the same
fort

fort of wood, screwed fast to the top of the staff AB , by a screw at B , and to the bottom of the staff DC at E . These braces, from the top of one staff to the bottom of the next, kept the whole upright circular frame very steady. $FGHIKLMN$ is another circular ring exactly of the same dimensions and construction with the former, on which it rests. To this the roof of the Observatory is screwed by means of ten long screws, which pass through the ends of the rafters at $FGHIK$, &c. into iron nuts fixed in this upper ring for that purpose. The rafters MP , RP , IU , KL , &c. are attached to the crown-piece PTU by hinges, as represented at 7, and U ; and the two short rafters FQ , NO , are attached to the two RP , MP , also by hinges at O , and Q . By means of these hinges the roof is made to open or close like an umbrella, and of course, if disengaged from the circular ring FRH , &c. will fold together, and may be packed up in a very small compass.

The covering of the roof is of very thick canvas, many times painted, and comes down so far as to hang over at the eaves about four inches. The crown-piece, PTU , is about eight inches in diameter, and covered with a circular piece of canvas like that the roof is covered with. An eye-bolt n passes through its center, and is fastened on the inside by the nut o . This eye bolt is intended for the reception of the hook u , which is fastened to the cord $m b g c d$, passing over a pulley at W , fixed in the top of the pole $I \angle$. Towards the bottom of this pole there is fixed a lever $g b$, by means of the clamp $e f$, and its fellow on the opposite side, and the lever, turns on the iron bolt f . The cord $m b c d$ passes through a hole c in the lever, and is drawn tight when the end b of the lever is turned upwards, and then made fast. Now if the end b of the lever be

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becker,

bucket, or endless cord ik , the roof of the Observatory will be drawn up from off the ring 1, 2, 3, &c. and may be turned round by twisting or untwisting of the cord, until the opening $NO P$ $Q E$ is towards the sun, or any other object, of which an observation is wanted to be made. When the observation is completed, the lever may be released, and the roof let down again to rest with its whole weight on the lower ring, as it will then be less liable to be disturbed by the wind: There are also eight small staples on the inside edge of the lower ring 1, 2, 3, &c. and as many small hooks, corresponding to them, on the upper, or that to which the rafters of the roof are fastened. These hooks, when the roof is lowered down, are to be hooked into the staples, and the cord then drawn tight, to prevent, yet farther, the effect of the wind. The opening $N, O P, Q F$, is covered, when not in use, by the flap, or roll of spare canvas $Q R G S$, which is of the same sort, and painted in the same manner, as that which covers the roof. The whole of this Observatory, except the three poles $W Z$, $W X$, and $W Y$, when taken down and packed up properly, is contained in a chest six feet and nine inches long, and about twenty inches square: The poles, which form the tripod, are of about fifteen feet long, and four inches diameter, may be laid amongst the spare booms of the ship, or if they should be thought too cumbersome there, may be cut out of the woods, or purchased for a trifle at any place where they are wanted.

Of the Clocks.

BOTH Clocks were made by Mr. Shelton, being furnished with compound pendulums of that sort usually called Gridiron Pendulums; and they escaped dead seconds in the late Mr. Graham's manner. They were fixed up by means of an iron block and
frame,

frame, which is represented in Fig 3 Plate I where $ABCD$ is a flat block of cast iron, about three or four inches thick, two feet long, and 13 or 14 inches broad, weighing between three and four hundred pounds. This block was laid horizontally on four wooden piles shod with iron, and driven deep into the ground, where the soil admitted of it; and where it did not, was placed on the firm rock. $EFGH$ is a frame of wrought iron, about an inch square, every where except at the top FG , where it is about three inches broad, and three fourths of an inch thick, and it is screwed firmly to the block at E and H by the screws aa . IK and LM are two braces of wrought iron, an inch square, screwed firmly also to the block at I and K , by the screws nn , and to the frame $EFGH$ at K and M by the screws oo . The bottom of the clock case rested on the flat horizontal surface $ILFH$, with its back against the flat bar FG , to which it was screwed fast by two strong screws, passing through the back-board of the case, and the mortices S, S .

This method of fixing up a clock on temporary occasions, was the invention of the very ingenious Mr John Smeaton, F R S. It has many advantages, as it may be set up in an hour's time, and may be effected in many situations, where the old method of letting down a post could not be made use of, particularly in rocky places, which are often the only eligible situations that can be found for observing near the sea shore, it also affords an exceeding steady foundation, and is subject to no inconvenience, that I know of, but the expansion of the frame $EFGH$ and braces IK and LM , which I found would be sometimes so great as to lift the clock case entirely off the block $ABCD$, and thereby render it loose, and subject to acquire motion from the momentum of the pendulum. This however may, I think, be completely remedied by having a cross

cross bar towards the bottom of the iron frame, as represented by the dotted lines *b c*, *d e*, to which the clock case may be screwed fast in the same manner as at the top, by strong screws and nuts passing through the back board and the mortices Q Q . There will indeed one inconvenience arise from this mode of fixing the bottom of the case, namely, that the clock must be set perpendicular to the horizon, entirely by the diving of the piles on which the iron block lies, and which will be very troublesome and very tedious to do, and of course take up much time, which in the cases where this apparatus will be most wanted, is often extremely precious, and on that account I would propose that there should be two strong arms fixed to the cross bar *b c*, *d e*, instead of the mortices Q Q , projecting forward, at such a distance as to admit the clock-case freely between them. In each of these arms should be a pretty strong screw, and by easing one of these screws, and tightening the other, the clock might very readily be brought perfectly upright, after the iron block had been laid nearly horizontal, and when it is so, both screws may be made to press against the case with equal and a moderate force. Another screw might be added in the iron bar *b c d e*, if thought proper, to set it upright the other way, but this is not so necessary.

As neither of these remedies were thought of at the time Captain Cook set out on his present voyage, it was thought advisable to try other methods; and that represented in Plate II was made choice of to be used by the Gentlemen who make the Astronomical Observations in the course of the voyage which he is now gone upon; the first hint of which, except what is to be met with in the Appendix to my Lord Mulgrave's Voyage towards the North Pole, was from a drawing of Mr Bayly's, presented to the Commissioners

millioners of Longitude, and by them put into the hands of Mr Arnold, watch-maker, to execute, and who made some deviations from the original drawing, which he thought was for the better. In the engraving, $\mu \nu \phi \lambda$ represents the Clock, supported clear of the ground, by the pieces $\phi \Omega$, ΓE , $\Sigma \Theta$, which are of mahogany, about two inches thick, and about two inches and a half broad, and screwed firmly to the case of the Clock at ϕ , Γ , and Σ , with strong iron screws, and nuts. These pieces rest on three orken piles, Λ , Π , and Δ , drove deep into the ground, and may be raised or lowered by means of the screws α , β , γ , as may be necessary, to bring the Clock-case to stand perpendicular. Two of those pieces, $\phi \Omega$, and $\Sigma \Theta$, are screwed to the two sides of the Clock-case, very near the front, and just below the rising-board, and the third ΓE , directly in the middle of the back-board, at exactly the same height with the other two. $\delta \iota$, $\Omega \eta$, and $\rho \vartheta$, are three horizontal braces of mahogany about two inches square, morticed fast into the pieces ΓE , $\phi \Omega$, and $\Sigma \Theta$, at δ , Ω , and ϑ , and force pretty hard against the case of the Clock at ι , η , and ρ , that is, $\delta \iota$ directly against the middle of the back-board, and $\Omega \eta$, $\vartheta \rho$ against the two fore corners of the case, the ends η and ρ of these two last being cut in an angle exactly to fit them. The case of the Clock, particularly the back-board, is made very strong, and is but just of a height sufficient to contain the pendulum.

Before I quit this subject, it may not be amiss to take notice of some very extraordinary irregularities, which happened in the going of the Clocks, as well as to bring into one point of view their several rates of going at the different places where they were set up.

The Clock B, which, I believe, has not been remarked in the body of the Work, gained $5''.03$ a day on fyderial time from March 28th to April 1st, 1772, when fixed up at the Royal Observatory in Greenwich-Park, to pieces of wood let into the wall of the Observatory; that is, in the manner which the Transit Clock at that place is fixed up: and the Clock C lost $0''.373$ a day on fyderial time from March 25th to March 28th, 1772, when fixed up at the same place, and in the same manner. The mean vibrations of the pendulum were $1^{\circ}53'$ each way. This Clock, with the same length of pendulum, lost $20''\frac{1}{4}$ a day on fyderial time, from July 1st to the 9th, 1772, at Drake's Island in Plymouth Sound, latitude $50^{\circ}21'\frac{1}{4}$ N., and longitude $4^{\circ}16'\frac{1}{4}$ W. of Greenwich; and the pendulum vibrated $1^{\circ}50'$ each way.

At Fonchiale, in Madeira, latitude $32^{\circ}33'\frac{1}{4}$ N., longitude $17^{\circ}11'\frac{1}{4}$ W., B lost $36''.6$, and C $1'15''$ a day on fyderial time, from July 30th to August 1st, 1772: the pendulum of B vibrated $1^{\circ}40'$ each way, and that of C $1^{\circ}53'$.

At the Cape of Good Hope, latitude $33^{\circ}55'\frac{1}{4}$ S., longitude $18^{\circ}23'\frac{1}{4}$ E., B lost $1'15''.43$, and C $1'27''.35$, a day on fyderial time, from November 2d to the 14th, 1772: the mean vibrations of the former were $1^{\circ}37'\frac{1}{4}$, and those of the latter $1^{\circ}43'\frac{1}{4}$.

At Dusky Bay in New Zealand, latitude $45^{\circ}47'\frac{1}{4}$ S., longitude $166^{\circ}18'$ E., B gained $4''.066$ on fyderial time, from April 5th to the 21st, 1773; and its mean vibrations were $1^{\circ}35'$ each way.

At Queen Charlotte's Sound in New Zealand, latitude $41^{\circ}6'$ S., longitude $174^{\circ}18'\frac{1}{4}$ E., C lost $1'29''.003$ a day on fyderial time, from April

April 20th to May 20th, 1773; and its mean vibrations were $1^{\circ} 52'$ each way. This Clock went here with greater regularity from day to day than it had done at any other place, except that some time in the night between the 14th and 15th of May, it seems to have stopped exactly $12''$, which is a most extraordinary circumstance, especially when we consider Mr Bayly's remark on that head, p 36 and no way, that I know of, to be accounted for

At Point Venus in Otaheite, latitude $17^{\circ} 29' \frac{1}{2}$ S, longitude $210^{\circ} 25' E$, B lost $1' 28''$,₄₂ and C $2' 10''$ ₆₉ a day on fyderial time, from August 27th to the 31st, 1773 the pendulum of the former vibrated $1^{\circ} 39'$, and that of the latter $1^{\circ} 46' \frac{1}{2}$ each way

At Queen Charlotte's Sound, B lost $21''$,₁₁₆ a day, from November 6th to the 22d, and vibrated $1^{\circ} 38'$ each way and C lost at the same place $1' 8''$,₄₇ a day, from December 7th to the 15th, 1773; and its pendulum vibrated $1^{\circ} 46'$ each way. The ball of the pendulum was now about 7 feet above the sea at low-water mark when here before, it was about $84 \frac{1}{2}$ feet above it

At the Cape of Good Hope this Clock lost $1' 36''$,₀₁₆ a day on fyderial time, from March 23d to the 28th, when Mr Bayly removed the Observatory and Clock to another part of the garden, after which, from the 28th to April 10th, 1774, it lost at the rate of $1' 17''$,₇₁ on fyderial time. I have remarked in p 76 that Mr Bayly says, he is absolutely certain no alteration happened in the length of the pendulum, and I make no doubt but that he examined it with the utmost attention but if some alteration in its length did not take place, and which, I think, might possibly happen, without his being able to discover it, it is utterly impossible to account for so great and sudden a change. The pendulum vibrated $1^{\circ} 46'$ each way

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The Clock B lost $1' 22''$,⁶⁴ a day on syderial time at Otaheite, latitude $17^{\circ} 29' \frac{1}{2}$ S., and longitude $210^{\circ} 25'$ E., from April 23d to May 9th, 1774; but I here reject its loss between April 30th and May 1st, as it appears to have lost exactly $1'$ more on that day than on any other; a circumstance I cannot account for *properly*, as I never, that I know of, left the case or face of the Clock unlocked. There is, however, little doubt but that some *witty* Gentleman or other found means to open it, and put the Clock a minute back, I suppose, to try whether or no the *Astronomer* could find it out. The vibrations of the pendulum were $1^{\circ} 35'$ each way until April 30th, on which day they dropped to $1^{\circ} 30'$, and after that decreased gradually, so that on May 7th the vibrations were no more than $1^{\circ} 15'$. I could find no visible cause for this alteration; the Clock was not more than $\frac{1}{2}$ down: however, I wound it up, and in a few hours it increased its vibrations again to $1^{\circ} 35'$, and continued to vibrate over that arch until it was taken down on May 10th.

On setting it up a second time at Queen Charlotte's Sound in New Zealand, I had much trouble in getting it to go at all, as most of its parts, and particularly the steel rods of the pendulum, were covered with rust. It lost at the rate of $15''$,⁵⁸ a day on syderial time, from October 22d to November 5th, 1774, and went pretty regularly after I did get it to go. I here added fresh oil, and its vibrations were then $1^{\circ} 37' \frac{1}{2}$ each way.

At Christmas Sound in Terra del Fuego, latitude $55^{\circ} 22'$ S., longitude $289^{\circ} 58' \frac{1}{2}$ E., B gained $36''$,⁵² a day on syderial time, between December 23d and 26th, 1774; and the mean vibrations of the pendulum were $1^{\circ} 37' \frac{1}{2}$ each way. This was the highest latitude that I had an opportunity of trying it in.

March 23d.

March 23, 1775, I fet B up a second time at the Cape of Good Hope, and from that time to April 23, it lost at the rate of $42''$, 207 a day on Syderial time the pendulum vibrated $1^{\circ} 37'$, each way from the perpendicular until April 9, and after that time $1^{\circ} 40'$ These matters are brought yet nearer into one point of view in the following table

Places	Clock B gains or loses on Syderial Time	Latitude	Longitude	Time.
Greenwich	+0 5,03	51 28 $\frac{1}{2}$ N	0 0	March 1772
Madeira	-0 36,6	32 33 $\frac{1}{2}$ N	17 11 $\frac{1}{2}$ W	July 1772
Cape of Good Hope	-1 15,43	33 55 $\frac{1}{2}$ S	18 23 $\frac{1}{2}$ E	November 1772
Ditto	-0 42,21			April 1775
Dusky Bay	+0 4,07	45 47 $\frac{1}{2}$ S	166 18 E.	April 1773
Point Venus	-1 28,42	17 29 $\frac{1}{2}$ S	210 25 $\frac{1}{2}$ E	August 1773
Ditto	-1 22,64			May 1774
Queen Charlotte's Sound	-0 21,12	41 6 S	174 18 $\frac{1}{2}$ E	November 1773
Ditto	-0 15,58			October 1774
Terra del Fuego	+0 36,52	55 22 S	289 58 $\frac{1}{2}$	December 1774

Places	Clock C I loses on Syderial Time	Latitude	Longitude	Time
Greenwich	-0 0,37	51 28 $\frac{1}{2}$ N	0 0	March 1772
Drake's Island	-0 20,62	50 21 $\frac{1}{2}$ N	4 16 $\frac{1}{2}$ W	July 1772
Madeira	-1 15,0	32 33 $\frac{1}{2}$ N	17 11 $\frac{1}{2}$ W	July 1772
Cape of Good Hope	-1 27,35	33 55 $\frac{1}{2}$ S	18 23 $\frac{1}{2}$ E	November 1772
Ditto	-1 36,02			March 1774
Ditto	-1 17,71	41 6 S	174 18 $\frac{1}{2}$ E	April 1774
Queen Charlotte's Sound	-1 29,0			May 1773
Ditto	-1 8,47	17 29 $\frac{1}{2}$ S	210 25 E	December 1773
Point Venus	-2 10,69			August 1773

On reconsidering the circumstance of the Clocks different rates of going at the Cape of Good Hope in November 1772 and April 1775, I am rather inclined to alter my opinion, (see p 131) and to conclude

conclude that I made a mistake in setting the pendulum to its proper length, either when here in November 1772, or at Dusky Bay in New Zealand, after which time it was never altered; especially as the difference corresponds nearly to that which would arise from a whole revolution of the nut which supports the ball of the pendulum, namely 28", or 29", increased by the same quantity that the Clock had gone faster on being set up a second time both at Point Venus and Queen Charlotte's Sound: and it appears farther, by comparing its rate of going at the Cape with its rate at Madeira, which is nearly in the same latitude, that if this was the case, the mistake must have happened on setting it up in November 1772. Now if this correction be allowed, this Clock will have agreed with itself as near, perhaps, as must ever be expected for any clock to do; especially when set up at such distant times, and put away, in the intervals, in damp and improper places, as will ever be the case on board ships, unless a proper place be made and fitted up on purpose for it: and this I think might readily be done on board any ship; in which case, it may not be useless to add, that this place must not be near either side of the ship, nor near the fore-part of it; and must be well lined with strong painted canvas, and over that with thick baize. A space of 20 inches, by 15 broad, and 4½ feet high would be fully sufficient for the purpose.

The assistant clock had a simple pendulum, whose rod was of white deal, and was always adjusted so that it would beat with the Astronomical Clock without sensible deviation for several minutes together; it shewed only minutes and seconds, was wound up in the common way that 24 hour clocks generally are, by pulling at the string, and constructed to give a very loud beat, and to strike with great exactness at the end of every minute, for the convenience

convenience of catching the second with more certainty in observing. The loudness of the beat is of great use when the wind is high; or when, on account of any other noise or disturbance, the Astronomical Clock cannot be heard, and was particularly useful to us, whose Observatories stood generally on the sea-shore, where the roaring of the surf seldom permitted us to hear the Astronomical Clock all the time it was going.

Of the Transit Instrument

THIS Instrument being now too well known to require a general description, I shall only just mention some particulars which are peculiar to that we made use of, and the manner of fixing it up. The object glass of the telescope, which was achromatic, was of 3 $\frac{1}{2}$ feet focus, and aperture 3 $\frac{1}{2}$ inches. It magnified about 50 times. The axis rested on two angular pieces of bell-metal, which were attached to two strong plates of brass, about six inches square; and these plates were let into two posts of Riga timber, six inches by eight, and screwed firmly to them by strong screws which came quite through the posts from the opposite side to that which the brass plates were let into. The angular pieces of bell-metal were made to slide on the brass plates, one in a vertical, and the other in an horizontal direction, by means of very fine steel screws, in order to adjust the Instrument, and bring it into the plane of the meridian. The posts had each of them a double tenon at the bottom, which fitted into two double mortices in a sill of the same timber, 10 inches by six or seven, and five feet in length, and they were braced together about three feet above this sill by a horizontal brace, and at the angles by cross braces, When

When the Instrument was to be set up, a hole was dug five feet long, about 15 or 16 inches wide, and three feet deep, in a direction at right angles to the meridian; and the posts and fill, thus braced together, let carefully down into it, the Instrument was then put into its place, and directed to a mark which had before been determined to be in the meridian by means of the Azimuth Compass, after allowing for the variation, by moving the frame a little one way or other in the hole as might be required, and after that, the axis was made horizontal by hanging on the spirit level intended for adjusting the Instrument, and raising one end of the fill, or lowering the other, as was most convenient, until both ends of the axis were of the same height. The hole was then filled with earth and stones intermixed, and well rammed in, taking great care, in this operation, not to twist, or force the frame out of the plane of the prime vertical, by frequently putting the Instrument into its place, trying the level, and directing the telescope to the mark. This being done, the nicer adjustments of the Instrument were made by means of the screws which govern the two angular pieces of bell-metal on which it rests; and I never found that the Instrument, thus set up, would vary materially in its position.

Of the Astronomical Quadrant.

THIS instrument has been so well, and so fully described by the Rev. Mr. Maskelyne, Astronomer Royal, in his instructions relative to the observation of the Transit of Venus (See Nautical Almanac for 1769), that little remains to be said on this head. It may not however be amiss to mention a circumstance or two wherein my instrument appears to have differed from that which Mr. Maskelyne described. And first, the arch of excess of my Quadrant, or that
which

most exquisite ones, and furnished with moveable polar axes, for the convenience of adapting them to any latitude whatsoever

Of the Hadley's Sextants

Of these we had each of us two, one made by Mr Dollond, with his new apparatus for adjusting the back horizon glass, and the other by Mr Ramsden. The latter was made by order of the Royal Society, in 1768, and I had before used it in my Voyage to and from Hudson's Bay, and knew its value. Its radius was 15 inches, and it was cut out of one solid plate of hammered brass, about one ninth of an inch thick, leaving only the frame and cross-braces of about one inch and one-third broad, and these were supported on the back with perpendicular, or, as they are usually called, edge-bars, screwed very firmly thereto by screws, which passed through the frame of the Sextant into the bars themselves. The index also was very broad and strong, and stiffened by a perpendicular bar, that was screwed fast on its upper side. The massiveness of these bars and frame rendered the instrument rather heavy, but I have never met with one that preserved its figure, plane, and adjustments, so well as this did, and these properties are so very essential, that I think they should never be given up, or even run the least risk of having impaired, for the trifling consideration of reducing the weight of the instrument a few ounces, which I never found in the least inconvenient, after I became used to it. This instrument had some disadvantages, which are now generally remedied, such as the smallness of the horizon-glass; and, what is much worse, that glass, small as it was, did not reflect a full field of view when the index was put back to its
greatest

on account of my want of time to consult a greater number of Authors, be comprised in a small compass

I have not been able to meet with the least hint of any Astronomical Instrument being used at sea before the latter end of the 15th century; about which time, as *Jo Pet Maffei* tells us in his *Histor Indic Martin de Bohemia*, a disciple of *Regiomontanus*, recommended the Astrolabe for taking altitudes on board a ship, but, whether this was then put in practice, does not appear, and it seems much to be doubted, whether the cross-staff, which was invented about that time, or very soon after, was not the first Astronomical Instrument used at sea this at least is certain, that all the old writers, whom I have met with, speak of the cross staff as a very ancient instrument, except *John Werner* of Nuremberg, and who, as far as I can find, is the first person that has described it; but it does not appear to me, from what he there says, that he was the inventor, but rather that he looked on it as an instrument in some measure then known, and he recommends it to seamen, as proper for observing the distance of the Moon from the Sun, or a Star, in order to determine the Longitude at sea *Werner's* book was printed in 1514, and I find the same instrument again recommended, and for the same purpose, by *Peter Apian*, in his *Cosmography*, which, by the date of his preface, appears to have been written in, or before the year 1524 About this time the method of finding the Longitude at sea by observations of the Moon's distance from the Sun or Stars is mentioned by several authors, and particularly by *Genma Frisius*, in his *Principia Astronomiæ et Cosmographiæ*, printed in 1530, who also mentions the doing of it by means of a Clock or Time keeper He was also, if I misake not, the first person who added three transoms to the cross staff, which

at

vations on the use of this instrument, among which is a method of correcting the error arising from the excentricity of the eye, and after mentioning this method of dividing very particularly, adds, " I freely confess that this method of dividing the staff into many sensible parts was not invented by me, *but had been long used in England* by many skilful mathematicians The first who used it, as I am well informed, was Richard Chanceler, a most skilful and ingenious mathematical instrument-maker, and whose name I more readily publish, as he is now dead, and has left behind him no memorial of his excellency, except some instruments fabricated with the greatest art and exactness, and the sweetest memory of his usefulness and skill in the minds of a few mathematicians yet alive '

I have been thus particular, because *Tycho Brahe*, at p 403 of his works, published at Franckfort in 1648, giving an account of the same star, takes notice of this passage of Mr Digges's, and adds, " But when I studied at *Leipsic* about twenty eight years ago, I used a cross-staff thus divided, which I had out of the shop of that excellent mathematician *Homelius*, by favour of his servant *Bartolomew Schultet* but whence *Homelius* had this, or whether he himself invented it, is with me uncertain " It is plain, from the very words here made use of, that *Tycho* meant to dispute the claim set up by Digges, for his deceased friend, to the invention, but I think with little probability of success for *Tycho* did not go to *Leipsic* before the year 1562, or 1563, as we learn from the account of his life, written by *Gassendus*, and *Tycho* himself, in his epistle to *Christopher Rothman*, written in 1587, and printed at Uranibourg in 1596, says he was then about seventeen years old; which, as he was born in the year 1546, must have been in 1563, that is, about ten years only before Mr Digges wrote Now Digges expressly says, that the
inventor

printed at Brussels in 1631. In the preface to this publication *Veinier* claims the invention as his own, and very justly observes that by this method, minutes are easily distinguished in q^{ly} , add of three inches radius, the truth of which I have myself often convinced of in instruments of Mr Ramsden's making. "E

The fore staff and astrolabe appear to have been the only instruments that were used at sea before the latter end of the sixteenth century, about which time the back-staff, as it was then called, on account of the observer's standing with his back to the sun, began much to be made use of. This instrument was invented by the celebrated Captain John Davis, who gave name to the Straits which separate West Greenland from America, and was by him first described, in a little book called the *Seaman's Secrets*, published in 1594, but this book I have not been able to meet with, however, there is a description of the instrument, together with a representation thereof, given by *Adrian Metius*, in his *Astronomia Institutio*, printed in 1605, and afterwards in his tract *De Arte Navigandi*, published at *Frankfort* in 1624, also in his *Doctrina Spherica*, lib 5 published at the same place, in 1630.

Originally this instrument had but one arch, namely, that on which the sight-vane slides, and the shade-vane was fixed on a straight rod, morticed into the upper side of the radius of the instrument, at a greater distance from the center, or horizon vane, than the arch itself but it did not long retain that form, for about the year 1600, or soon after, the arch was extended up to 90° , partly below, and partly above the radius, and the shade-vane fixed on that, to any proposed, even degree that was found most convenient, and in this state it was generally known by the name of the bow. It was not, however, many years before it underwent

some others, and the last, the plough, Elton's, and many other quadrants none of which remained long in use, and very few deserved to have been used at all

I come now to relate the inventions of instruments for measuring angles by reflection, the first hint of which was, I am firmly persuaded, given by that truly ingenious and indefatigable mechanician, Dr Hooke, about the year 1681, as appears from Dr Birch's History of the Royal Society, vol iv p 102, and also from his Life and Posthumous Works, p xxiii and 503, published by R Waller, Esq, in 1705; but the angles, in his instrument, being measured by one reflection only, rendered it not so convenient for sea purposes as it would otherwise have been. The next who *published* any thing on this head, was John Hadley, Esq, Vice president of the Royal Society, and at that time famous for having perfected, and brought into use, the reflecting telescope. This Gentleman, on the 13th of May 1731, presented to the Royal Society an instrument constructed in pretty near the same form that they now are, and also a description of the same, in which he gave a *very* full account both of the theory and manner of using this instrument. But although Mr Hadley was the first who published, yet it is no less certain that the incomparable Sir Isaac Newton had long before that time invented an instrument of this kind differing little from that of Mr Hadley's, except in the manner of applying the telescope. But this, like many other of Sir Isaac's discoveries, was not publicly known till several years afterwards, namely on the death of Dr Halley in 1742, when a paper, in Sir Isaac's own hand writing, containing a description of the instrument, was found amongst the papers of that gentleman, and it was published, together with a drawing of the instrument, in N^o 465 of the Philosophical

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went another alteration, and received its present form. For the shade vane being then placed at a great distance from the horizon vane, the penumbra of shade became so extensive, that neither its beginning, end, or center, could be judged of with any tolerable degree of certainty, and what was yet worse, if the sun did not shine very bright indeed, the shadow could not be seen at all. It was therefore deemed necessary to lessen the radius of that part of the arch on which the shade vane is fixed, in order to obtain a more distinct, and stronger shadow. It is not now known to whom we owe these improvements. Some think they were made by the inventor himself, but this I much doubt. The last improvement that was made to this instrument, at least of any consequence, was the substitution of a lens, whose focal length was just equal to the radius of the lesser arch, instead of the shade-vane. This, although in itself so simple, was a very considerable improvement to the instrument, for the spot of light, formed on the horizon vane in the focus of the glass, will be bright enough to be seen very distinctly, when the sun is so very faint that the least trace of the shadow from the vane cannot be discerned. It is said positively, at p. 50, vol. 1. of Sir Jonas Moore's *New System*, that this was the invention of Mr. Hunkler the first Astronomer-Royal, but others say it was contrived by the late Dr. Edmund Halley, and adapted to that instrument in his voyage to the Island of St. Helena in 1677. It is not improbable that both might think of it.

These three instruments, namely the astrolabe, fore-staff, and Davis's quadrant, underwent many other alterations, and appeared under a great variety of shapes that are not taken notice of above. From the first came the semi-circle, the sea-rings, and sea-quadrant, the second produced the demi-croix, Mr. Hood's staff, and

some others; and the last, the plough, Elton's, and many other quadrants: none of which remained long in use, and very few deserved to have been used at all.

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sophical Transactions for the year 1742. As there was no date to this paper, the exact time of Sir Isaac's discovery cannot now be ascertained: there is not, however, the least doubt of its being long prior to Mr. Halley's in 1731, as Sir Isaac Newton died in 1727, and for some years before, had not thought much of these things; it is therefore matter of much surprize that Dr. Halley should not recollect, and produce this paper of Sir Isaac's, when Mr. Halley's was publicly read, and thereby secure to his, then lately deceased, and ever to be admired friend, the prior invention of this most excellent instrument, to which he had, without doubt, an incontestible right. It is also most probable that Dr. Halley could have decided whether or not Sir Isaac's thought was prior to Dr. Hooke's in 1681, as Mr. Stone will have it in his Appendix to the Translation of Bion's Instruments, where he says, "The first of these instruments for taking the moon's distance from the sun, was invented long ago by Sir Isaac Newton, as appears in a paper of Sir Isaac's own hand writing, found amongst those of the late Dr. Halley, and the very instrument itself, that Sir Isaac either made, or caused to be made, so long ago as when Dr. Halley went about making the catalogue of the stars in the Southern hemisphere, which was in the year 1672, was not long ago to be seen at Mr. Herth's in the Strand." But little dependence can be placed on what he has here advanced. That an instrument of this kind may have some time been made by Sir Isaac's direction, is very probable, but not at the time here mentioned: for in the first place, Dr. Halley did not set out for Saint Helena until the latter end of 1676, that is, at least four years after the time mentioned by Stone: and it is almost as certain, that when he did go, he had no instrument like this with him, because in his Tract entitled *Catalogum Stellarum Australium*, published after his return, in 1679, and which is now before me,

me, he gives a list of the instruments that he was provided with on that occasion, in which no instrument of the kind appears; and it is scarcely to be credited that he would leave out of the catalogue an instrument which he must have found so useful, and that had been invented by so great a man, expressly on that occasion, and for the purpose of observing the moon's distance from the sun and stars, if any such instrument had at that time existed; and more especially, as it is well known that the Doctor had always that method of finding the longitude much at heart, and he repeatedly mentions it in this publication *.

If this instrument was ever made at all for Dr. Halley, it is most probable that it was done about the time when he went, in the Paramore Pink, to observe the variation of the compass; that is, in the years 1698, 1699, and 1700: although I cannot help thinking that if he had then had any instrument of the sort, he would have left some account of its success in his journals, which, as far as I can find, he has not done.

The principle on which this most excellent instrument is founded, is so natural and obvious, that no less than five persons have come to my knowledge, exclusive of Dr. Hooke, who used but one reflection, that have invented and made it, independent of one another; and that nearly in the same form. After Sir Isaac Newton and Mr. Hadley, or rather before the latter, Mr. Thomas Godfrey of Philadelphia, invented a quadrant to measure angles by reflection.

* Since writing the above, I have been informed that at the time when Mr. Hadley's paper was read, Dr. Halley did declare he had one of Sir Isaac Newton's, describing an instrument similar to Mr. Hadley's, and which was given to him in 1700, or 1701; but that he did not then know where to find it.

INTRODUCTION

XXXIII

tion, which was sent to sea about the latter end of the year 1750 but I cannot find with what success, nor yet in what manner it was constructed, whether he used two reflections or only one. The next, in point of time, was the late Joseph HUNTS, Esq, sometime Warden of the Mint, and who, as I have been very credibly informed, invented an instrument of this sort, without knowing that any thing of the kind had been done before. And, lastly, it uncontestedly appears, from several letters to the late Rev Mr ROWNING, that the same thing was again done, about the years 1752 or 1753, by Mr George HOLROYD, a very ingenious mechanician, then of the city of York, but now of Great Queen-street, Lincoln's-Inn Fields, together with some ingenious improvements, which shall be mentioned hereafter.

But, notwithstanding these inventions of private gentlemen, which were laid aside as soon as the respective authors came to know what had been done by others, who had gone before them, few or no attempts were made towards improving the construction of this instrument from the time of its discovery by Mr Hadley, until after the year 1743, about which time his patent ended, and the only contest among the generality of instrument-makers, after it got into their hands, was to try who could make it for the least money; which, it will readily be conceived, did not add much to its accuracy. Indeed, to such a deplorable state was this most excellent instrument reduced about the year 1750, that *M De la Caille* assures us in his *Ephemerides des Mouvements Celestes* for the years 1755 to 1765, two persons, observing at the same time, with two of the best quadrants that *they* had, and with the greatest care, would frequently differ 6, 7, and even 8 minutes, in the same altitude. We may indeed conclude, that either these instruments were made in France,

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or that proper care had not been taken in procuring them from good makers in England; for at all times instruments, sufficiently exact for observing altitudes, were to be had here, either from Mr. Jackson, who had made them for Mr. Hadley, under his patent; or, after his decease, from Mr. Bird.

The first persons, that I know of, who applied this quadrant to the actual measuring of distances, were Dr. Bradley, then Astronomer Royal at Greenwich, and Capt. John Campbell of the Royal Navy. The latter, about the year 1747, having, for his own amusement, measured the distances of several fixed stars with a quadrant of Jackson's making, shewed them to Dr. Bradley, who found them to correspond very exactly with their true distance in the heavens: and after this time, those gentlemen frequently made observations of the moon's distance from the sun and stars, and also of stars from one another, in company at Greenwich. In the course of these transactions, Dr. Bradley shewed Capt. Campbell an instrument, which had been contrived on purpose for making these observations by Mr. Hadley, and which was something like the Newtonian form; only the small speculum was made to slide in a groove, so as to stand either to the right or left of the great one, for the convenience of measuring the moon's distance from objects on both sides of her, without turning the plane of the quadrant downwards, as is now done, and which at that time was thought very inconvenient. Dr. Bradley had also by this time greatly improved Dr. Halley's Lunar Tables, and began to entertain great hopes of effecting thereby the so much wished-for method of finding the longitude at sea, by observations of the moon's distance from the sun and fixed stars; and the rather, as Mr. Bird had now begun to apply himself to improve the Hadley's Quadrant, in which,

which, the principal defect, then complained of, was its bending when inclined out of a vertical position, and he succeeded so well, that in the year 1750, the late ingenious Mr Benjamin Robins made those observations with great success, in his voyage to the East Indies, with quadrants of only 7 inches radius

The illustrious Sir Isaac Newton had, long before, laid the foundation of the Lunar theory in his *Philosophiæ Naturalis Principia Mathematica* and about this time, many learned persons, both at home and abroad, turned their thoughts, either towards explaining and reducing that theory into tables, or to the making of observations for establishing those points which theory alone could not give, as well as for perfecting and examining the tables after they were made: for experience had by this time abundantly shewn, that accurate tables were not to be expected from theory alone. Amongst those who have exerted their talents this way, we may particularize the Rev Dr. Bradley and Mr Thomas Simpson at home; and the celebrated Euler, Clairaut, Mayer, D'Alembert, Walmesley, and many others, abroad. Of those who applied themselves to the practical part, none did so much as our countryman Dr Bradley, whose skill, accuracy, and assiduity in the making of observations, undoubtedly left all his contemporaries far behind, but it must be owned, on the other hand, that the foreign mathematicians far outstripped us in the business of theory; owing, no doubt, to the diligence with which they have cultivated the modern method of analysis. Amongst those, none have distinguished themselves more than Messrs Euler, Clairaut, and Mayer; and if the two former have, in some respects, shewn greater depths of mathematical knowledge, the last has been much more happy in a skilful arrangement of his tables, for the ease and expedition of computation.

In consequence hereof, M. *Euler* published his Lunar Tables in the *Almanac Astronomique*, printed at Berlin for the year 1750; M. *Clairaut*'s Tables came out in the year 1752, in answer to the Prize Question, which had been proposed by the Imperial Academy of Peterburgh in 1750; and M. *Mayer*'s, in the Gottingen Acts for 1753; in which he not only excelled both the former in ease and elegance of computation, but in exactness also; owing, perhaps, in some measure, to the use which he made of a number of Dr. Bradley's observations, that had been sent by the late Mr. Gael Morris to M. *Euler*; and by him given to M. *Mayer*. In these Tables, the errors in longitude no where amounted to more than two minutes: and having yet farther improved them in 1755, he sent them over to the Right Honourable the Lords Commissioners of the British Admiralty, with a claim to such part of the reward, offered by Parliament for the discovery of the longitude at sea, as they might be thought to deserve. He also sent over at the same time a drawing and description of an instrument for measuring angles by reflection; both of which are inserted at the end of his Lunar Tables, since printed by order of the Commissioners of Longitude. This instrument is chiefly calculated to obviate the errors which might arise in setting off the total arch in instruments less than a complete circle, as well as the irregularities that may happen in the intermediate divisions.

These Tables were very carefully compared by Dr. Bradley with a great number of observations of the moon, made by himself at Greenwich, with the new instruments; and he says, that "in more than 230 comparisons they no-where differed from the observed longitudes so much as one minute and an half." As this quantity included both the error of the Tables and that of the Observations
also,

also, Dr Bradley inferred that the Tables must have generally given the moon's place true within little more than a minute of a degree, and therefore that the difficulty of finding the longitude at sea, by observations of the moon, so far as related to the accuracy of the Tables, was in a great measure happily got over, and that it only remained to prove whether or not the necessary observations could be made at sea with sufficient accuracy

In consequence of this representation, the Commissioners of Longitude ordered two of Mr Mayer's circular instruments to be made, by Mr Bird, and Captain Campbell, who had before given indubitable proofs of his skill and exactness in making observations of this sort, was desired to make trial of them at sea, as well as of Mr Hadley's quadrant. Accordingly, this excellent observer, and also Mr John Bradley, nephew to Dr Bradley, and now second Master at the Royal Academy at Portsmouth, made a great many observations of the moon's distance from the sun and fixed stars, in the years 1757, 1758, and 1759, which were afterwards computed by Dr Bradley, and found to correspond, in a most surprising manner with one another, and also with the longitudes of known places, within sight of the ship when the observations were made. In the course of these trials, it did not appear that the Hadleys quadrants were liable to any considerable errors, of the kind that Mr Mayer's instrument was intended to remove, and as that instrument is very limited in the extent of its radius, without becoming heavy and inconvenient, it was then totally laid aside.

In this state were these matters situate in the year 1760, when all the learned Societies and Academies of Europe began to prepare for observing the Transit of Venus, over the Sun's disc, in 1761;

which

which our learned countryman, Dr. Edmund Halley, had, with immortal reputation to himself, foretold, and shewn the use which Astronomers might make of it, more than eighty years before it happened. This was a favourable opportunity for all those who were employed to make that important observation, and had the method of finding the longitude at sea by observations of the moon at heart, to exert themselves in reducing, and bringing it into practice: and in this respect none exerted themselves more, or with greater success, than our present Royal Astronomer, the Reverend Nevil Maskelyne. This ingenious and learned Gentleman, not only made a great number of those observations with success himself, but also so far convinced the officers of the several ships, which he sailed in, of the ease and certainty wherewith they could be made, and the utility they were of, that the method soon came almost universally into use in the East India Company's service, and has now been long established, as a branch of knowledge, absolutely necessary, in their naval officers. On his return home, he published the methods he had made use of, together with many excellent modes of abbreviating the computations, which at that time were tedious enough, and not to be effected with less than three or four hours labour by the most skilful computer, under the title of *The British Mariner's Guide to the Discovery of the Longitude at Sea*. In the same work he gave several methods, which before that time were not generally known, or made use of, for adjusting, and examining the Hadleys Quadrant with greater accuracy, as well as many other curious and useful hints, not so immediately relating to the subject before us, but which are nevertheless of great consequence to the mariner, and I believe now frequently used. Lastly, he recommended the publication of a *Nautical Almanac*, on a plan something

something similar to that which had formerly been suggested by *M De la Caille*, on which account he presented his book to the Commissioners of Longitude for their concurrence therein

In the mean time we had the misfortune to lose two of the greatest Astronomers that perhaps the world had ever produced, and who, of all men, had done most towards promoting and perfecting this method, namely, the Reverend Dr James Bradley, Astronomer Royal at Greenwich, and Savillian Professor of Astronomy at Oxford, and Mr Tobias Mayer, Professor of Oeconomy in the university of Gottingen, and author of the Lunar Tables, which have already been mentioned. The latter having been furnished with most excellent instruments, made by the late Mr Bud, through the munificence of his late most gracious Majesty King George the Second, to the use of which he applied himself with unremitting ardour, had, by comparing his observations made therewith, as well as those which he had formerly received from his ingenious contemporary Dr Bradley, with the numbers resulting from the theory, so far perfected the Lunar Tables before his death, that his widow was enabled to send over, in 1763, a set that did not differ more than one minute of a degree from any of Dr Bradley's observations, except in a very few instances, most of which had been marked by the observer as very dubious observations; but in much the greater number, the errors did not amount to quite half a minute

The comparisons of these new Tables with Dr Bradley's observations were made by the late very ingenious Mr Gael Morris, and who, by comparing the Tables which Mayer first sent over with Dr Bradley's observations, and altering the maximums of the equation where the observations seemed most to require it, had at that
time

time composed Tables of the moon's motions, which at all times give the moon's place in the Heavens to a very great degree of exactness: but having been indebted to Mr. Mayer both for his form and theory, he would never be prevailed on in his lifetime to let them be made public, lest they might be thought to interfere in the claim set up by that deserving Astronomer, to the reward granted by Parliament for the discovery of the longitude at sea.

The accuracy of the Tables, and the practicability of making the observations, being thus ascertained, many ingenious Gentlemen began to turn their thoughts towards reducing the length and difficulty of the computations; amongst whom, my truly worthy and ingenious friend, Mr. George Witchell, head-master of the Royal Academy at Portsmouth, was peculiarly happy in hitting on a device for throwing the whole of that part of the computation which relates to the reduction of the apparent to the true distance of the moon and stars, on account of parallax and refraction, into Tables; from whence it may, in many cases, be taken, almost at sight, and in the most troublesome ones by very easy proportions. This method was proposed to the Commissioners of Longitude in the month of September 1764, and so well approved of, that the Commissioners ordered him a gratuity of 300 *l.* and the tables to be computed and printed, which has since been done, with the addition of a column for correcting the effects of refraction, on account of the variable density of the atmosphere, under the inspection of the Rev. Dr. Anthony Shepherd, Plumian Professor of Astronomy and Experimental Philosophy in the University of Cambridge, and Master of Mechanics to his Majesty. By the help of these Tables, as I can from long experience assert, the abovementioned reduction may generally be made in about three minutes, and always in five.

Mr.

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Mr Witchell, at the same time, proposed the publication of a Nautical Almanac, and delivered in a plan on which it might be executed and Messrs Dunthorne and Lyons, very soon after, produced excellent Compendiums for abridging this reduction, by means of short tables and rules; and for which they were each of them rewarded with a gratuity of 50 l and their methods ordered to be printed.

Very early in the spring of the year 1765, the Rev Nevil Maskelyne being then returned from his voyage to Barbadoes, whither he had been in consort with my brother-in-law, Mr Charles Green, to make observations for the trial of Mr Harrison's Time keeper, and in which voyage they had both of them had abundant proofs of the possibility of making the lunar observations with ease and exactness, was, on account of his many eminent services to, and great skill in the science, made Astronomer-Royal at Greenwich, on the decease of the Rev Mr Bliss, who had succeeded Dr Bradley in 1762 and having now a seat at the Board of Longitude, again pressed the publication of a Nautical Almanac, and backed the memorial, which he then delivered in, with the testimony of several gentlemen in the East India Company's service, who all concurred in declaring their opinions, that such a publication would be of the utmost utility to navigation. In consequence of these representations, the Commissioners applied to Parliament for authority to print and publish such an Almanac, which was granted by an act, made in the fifth year of the reign of his present Majesty, and in consequence thereof, proper persons were employed, and the first Almanac, of this kind, was computed and published for 1767, and they have been continued ever since, being published several years in advance for the benefit of those who make long
k voyages

voyages. The same act ordered a reward of 3000 l. to be given to the widow, or other representatives of the late Mr. Tobias Mayor, author of the Lunar Tables; and also 300 l. to the celebrated Mr. Euler, for what he had done in reducing Sir Isaac Newton's Theory of the Moon into neat analytical expressions, of which Mr. Mayer had availed himself, and from whence, by a very singular address of his own, had contrived to bring out the greatest quantities of the equations with ease and exactness.

But although matters were thus far happily advanced, it was not proposed to rest here. The Rev. Mr. Maskelyne having compared Mr. Mayer's last Lunar Tables with more observations, conceived hopes of bringing them to agree yet nearer with observation. Accordingly, with the approbation of the Board of Longitude, the equation tables were recomputed from numbers which he had reasons to think were nearer to the truth: he also directed that those tables should be continued to tenths of seconds, in order that fewer errors might happen from the omission of the fractional parts which arise in computation. These Tables have since been printed, and it is from them that the computations in the Nautical Almanac are now made. Moreover, two most excellent and accurate methods of reducing the observed distance of the moon from the sun, or a star, to the true, have been invented, and published in the Nautical Almanac for 1772. We are indebted for one of them to the Rev. Nevil Maskelyne, Astronomer-Royal; and for the other to Mr. George Witchell, Head Master of the Royal Academy at Portsmouth.

By these means, namely, the Nautical Almanac, and the several methods described above, of abridging the reduction of the apparent distance to the true, on account of parallax and refraction, the computations

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computations, attending this method of finding the Longitude, may be performed in 15 or 16 minutes by a very moderate computer; although formerly it could not have been done in less than three or four hours by the most skilful. But notwithstanding this, there yet remained many things to be done, and great difficulties to be got over. It had yet been practised by very few persons except such as were fond of Astronomical matters, and it could not be supposed that the generality of seamen or even any considerable part of them, should be so; and it is not an easy matter to induce people, of any denomination, to take the trouble of putting in practice the schemes of other persons, unless they are previously well assured of their success, which was by no means the case here, as every seaman, without exception, had been taught, from his infancy, to look on these things as impracticable. The Right Honourable the Lords Commissioners of the Admiralty took every step in their power to encourage the practice of this method in the Royal navy, but notwithstanding this, it was rather fortunate that another transit of Venus was to be observed in 1769, which, together with the voyages, lately undertaken for discoveries towards the South, have carried many persons abroad, who, either by inclination or situation, were interested in its success, and of course exerted themselves in the practice of it, and their example has, perhaps, contributed more towards bringing it into use, than every thing else put together.

As the practice of this method became more extensive, many little defects were discovered in the instruments, which had either escaped notice before, or not been much attended to. Among these, the most material were the want of accuracy in the divisions of the arch, and the errors arising from a want of parallelism in the

the two surfaces of the glass speculums. The former, Mr. Bird had shewn might be avoided by a skilful workman, and received 500 l. from the Board of Longitude for his excellency therein; and it is now completely removed by Mr. Ramsden, by his curious invention of a machine for dividing circular arches in Astronomical instruments; and for which he, also, received a very handsome gratuity from the said Board. This machine divides with so much certainty and exactness, that a quadrant, which had been divided by his apprentice therewith in the presence of several of the Commissioners of Longitude, and afterwards examined with the utmost rigour by Mr. Bird, was found not to err, in any part, fifteen seconds of a degree; for Mr. Bird himself assured me, that if it had, he was certain of discovering it. The same ingenious Gentleman has now under consideration a machine, of a similar kind, for dividing straight lines with equal accuracy, certainty, and expedition.

The latter, namely, the errors arising from a want of parallelism in the two surfaces of the glasses, has also been well provided against, at least in the index-speculum, by the Rev. Mr. Maskelyne, our present Astronomer-Royal; and which he has described in some very interesting remarks on the Hadley's Quadrant, published in the Nautical Almanack for 1774. This most excellent improvement is effected by leaving the upper part of the index-speculum unsilvered, and making that part of the glass rough on the back, and covering it with a sort of black paint; whereby all the rays are absorbed, which are not reflected from the first surface; and which, I will be bold to say, is one of the greatest improvements that have been made to this instrument since its invention. Mr. George Holroyd, mentioned above as one of the inventors of Hadley's Quadrant, had also a thought of this kind for remedying these

these errors, as appears from a Quadrant, which I have seen, that was made for him by Mr Dollond about the year 1765 I have also seen some contrivances, of the same Gentleman, for removing these errors, by making the speculums of a sort of opaque glass, and also of a composition somewhat resembling enamel, which might not, perhaps, be unworthy of a trial

In the same paper, Mr Muskelyne has given many excellent rules and directions concerning the size, height, and manner of silvering the glasses, the aperture of the telescope, and the means of adjusting it parallel to the plane of the quadrant, and he directed that two thick silver wires should be placed in the focus of the eye-glass of the telescope, dividing the diameter of the field of view into three equal parts, for that purpose at the same time shewing many other useful purposes that these wires might be applied to

I have observed before, that Mr Bird was the first who applied perpendicular bars to support, or strengthen the plane of this quadrant but the index being yet made of a broad, thin bar of brass, was liable to be bended, either towards, or from the plane of the quadrant, and of course the center-work was very much exposed to damage To prevent this, the same Gentleman, first of any person that I know of, applied a perpendicular bar to the face of the index, which it was then supposed would render these very delicate parts of the instrument perfectly secure But, such are the imperfections of the very best materials we are possessed of, that it was soon after discovered, the index of a Hadley's Quadrant, strengthened even in this manner, was yet liable to bend in the direction of its breadth, or, which is the same thing, in the direction of the plane

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of

of the angle to be measured ; and that merely with the small force which is necessary to overcome the friction of the center-work ! A thing so incredible, that the late Mr. Bird, who certainly knew the instability of metals as well as any man, could not be persuaded of its possibility, until Capt. Campbell, who first discovered this defect, shewed it to him, by releasing the clamp which fastens down the index, and pushing the index gently along with his thumb ; when, on suddenly removing it, Mr. Bird saw, with his own eyes, the index spring back again to a very sensible distance. And this error will be very considerable indeed, if by any mischance the screw, that binds in the center-pin, should have been screwed up a little too tight. To prevent this, Mr. Bird, in all the quadrants which he made towards the latter part of his time, provided a thin, circular plate of hammered brass, beaten hollow on one side ; and cut, by many straight slits, from the circumference almost to the centre, where it was perforated, of a sufficient width, to receive the binding-screw of the center-work freely. This plate being put over the center-pin, with the hollow part towards the back of the quadrant, and the binding-screw put through the perforation into its place, the plate will then act as a spring against the back of the quadrant, and by its yielding prevent the center-work from being drawn too tight by the screw, and yet hold it with sufficient force to prevent any shake in it. But as there are many quadrants, which are not made in this manner, and as it is possible this apparatus may not always answer the purpose intended, so completely as might be wished for, I would advise every observer to move the index of his quadrant different ways between the observations ; that is, to set the objects open, and make them overlap, alternately. By these means they are brought into contact, by moving the index different ways ; and

on

on that account, the errors arising from this cause will be alternately negative and affirmative, and of course, if an equal number be taken both ways, will nearly destroy one another. This method will also have a tendency to correct any errors, which might otherwise arise from a faulty habit, that the observer may have contracted, in forming the contact of the two objects; and is what I always used without ever finding any bad consequence arising from it, but that of making the observations look a little irregular, which will be more or less according to the joint quantity of these two errors.

By such steps have the Instruments, as well as the practice of Nautical Astronomy, arrived to their present degree of perfection, and it fully appears from the preceding Narrative, how great a part is owing to the rewards held forth, and the generous encouragement given, by the Board of Longitude, to ingenious men of all denominations, for inventions and improvements, that in any way conduce to the advancement of Astronomy and Navigation, and also of what vast utility that institution has been of to these flourishing and opulent kingdoms.

As I have spoken rather warmly in favour of the method of finding the longitude by observations of the Moon's distance from the Sun and Fixed Stars, it may perhaps be expected that I should deliver my opinion concerning the accuracy wherewith they can be made, and what may be expected from the instrument of which I have said so much. It must be owned, there is yet something in the constitution of this Quadrant very disagreeable, and not easily to be accounted for. Sometimes, for many months together, the longitudes deduced from observations made about the same
time

time with my two Sextants, would not differ more than 10 or 15 miles, and very seldom so much; after which the longitudes, so deduced, would begin to differ, and that difference would gradually increase, sometimes to more than a degree and an half: In a little time it would again decrease, and soon after the observations would agree as well as ever. It will readily be supposed, that no means were left untried by me to discover the cause of this strange aberration; but all my endeavours were ineffectual; and I mention the circumstance to induce some person, more skilful in mechanics, to attempt it.

With respect to the exactness that these observations may be made with, I shall beg leave to relate two plain matters of fact, which will shew what can be done in this respect, better than a thousand opinions. I reduced ten observations, all taken within the space of half a lunation before our arrival at the Cape of Good Hope, to that place, by means of Mr. Kendall's Watch; and also as many taken after leaving it, by the same means: the result of the former gave the longitude of the Cape Town $18^{\circ} 16' E.$, and of the latter $18^{\circ} 23\frac{1}{2}' E.$ Their mean is $18^{\circ} 16' 50'' E.$; differing $6' 25''$ from its true longitude, as determined by Messrs. Mason and Dixon. Again, the mean of four lunar observations, taken immediately before our arrival at St. Helena, gave its longitude $5^{\circ} 30\frac{1}{2}' W.$, when reduced thither by Mr. Kendall's Watch: four, taken immediately after leaving it, and reduced to that place in the same manner, gave its longitude $6^{\circ} 20' W.$ Their mean is $5^{\circ} 55\frac{1}{4}' W.$, which differs but $6' 6''$ from its true longitude, as found by the Rev. Mr. Maskelyne, by a great number of astronomical observations made on shore. I therefore conclude, that, with very little trouble, the longitude of a ship, at sea, may generally be had by this method, within

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about the one-sixth part of a degree, or at most, the one-fifth
—I shall now proceed to describe the rest of the instruments made
use of in this expedition

Of the Azimuth Compasses

BESIDES that of Mr Adams's making, which belonged to the Board of Longitude, and was of the late Dr Knight's construction, we had two others, belonging to the ship. One of these also was of Dr Knight's construction, and made by the same artist, and the other by Mr Gregory, with some alterations of his own, consisting chiefly in the size of the instrument, the weight and strength of its parts, and their manner of suspension, which was on friction wheels. Every one of these, I conceive, were conducive either to lessen its motion, or render it more regular, and of less effect. Indeed I must observe, that Dr Knight's Compasses, as they are now made, are very defective in these particulars, seeing that the least motion of the ship throws them into disorder, and they are not readily made steady again, which renders them very troublesome to observe with, and perhaps not quite so accurate as they might otherwise be.

I cannot pass this article over without making a remark or two on the irregularities which we found in the Observations, made with these instruments. In the Channel of England, the extremes of the observed variations were from $19^{\circ}\frac{1}{4}$ to 25° and all the way from England to the Cape of Good Hope, I frequently observed differences nearly as great, without being able, any way, to account for them, the difference in situation being by no means sufficient. These irregularities continued after leaving the Cape, which, at length, put me on examining into the circumstances under which

they were made In this examination it soon appeared, that when most of those observations were made, wherein the greatest West variations had happened, the ship's head was North and Easterly; and that when those, where it was least, had been observed, it was South and Westerly I mentioned this to Captain Cook, and some of the Officers, who did not at first seem to think much of it, but as opportunities happened, some observations were made under those circumstances, and very much contributed to confirm my suspicions, and throughout the whole voyage I had great reasons to believe, that variations observed with a ship's head in different positions, and even in different parts of her, will differ very materially from one another, and much more will variations, observed on board different ships, which I now find fully verified, on comparing those which were made on board the Adventure with my own, made about the same time and the inquisitive reader will find some very singular instances of these matters in the course of the following Observations — The twelfth article does not require any account here

Of the Dipping Needles

THIS Instrument was made by Mr Nairne, agreeable to a plan of the Rev Mr Mitchell, Fellow of the Royal Society, wherein the Needle may be balanced at any time, pretty exactly but not without much time and trouble This is done by means of four little balls, moving on two small wires, one of which is supposed to lie in a plane, passing through the axis of the Needle and its two poles, and the other in a plane at right angles thereto By moving the balls of the latter, the common center of gravity of the balls and Needle, is brought into the plane which passes through

through the poles and axis of the Needle; and then, by moving the two former, into the axis itself

The principal defects in this construction are, the difficulty in placing the wire, which carries the two last mentioned balls, in the proper plane; and the total impossibility of knowing, certainly, when it is so. Moreover, it is very possible, and undoubtedly often happens, that the axis of the Needle, and its two poles, do not lie in the same plane, in which case, another difficulty will arise in adjusting the Needle to great accuracy. It would certainly, I think, contribute towards removing these objections, if the breadth of the Needle was placed in the direction of its axis of rotation, both in this instrument, and also in the Azimuth Compass. but I speak this with submission to the opinions of better judges

Of the Barometers and Thermometers

THE two portable Barometers differed in no respect from common ones of that kind but the construction of the Marine Barometer is curious, and deserves to be described. It was of that sort which we generally call Cistern Barometers. The cistern was a cylindric box of wood, with two circular holes in its top, one of near half an inch, and the other of near an inch diameter. Into the former of these, the tube is fitted so tight as not to admit the mercury beside it. The larger perforation is covered with a very fine piece of woollen cloth, which Mr Nairne found had the property of admitting air through its pores, but not mercury. The tube was straight, and its bore rather small for something more than two feet, but above that, it was enlarged to the common size. The smallness of the tube, below, prevented the mercury from ascending so fast as it would otherwise

otherwise have done by the motion of the ship, and the width of the tube, above, prevented what did rise from having so sensible an effect as it would otherwise have had, on the motion of the mercury in that part of the tube. This Barometer was suspended on a common gimbal, about half-way up. I soon found that the motion of the ship had a very considerable effect on this instrument; and it seemed to me, that the motion of a Barometer, thus suspended, had a tendency to make the mercury stand somewhat higher than it would otherwise have done; and therefore the mean of the vibrations of the mercury, as put down in the following pages, will generally be greater than would be shewn by a barometer at rest. Mr. Nairne tells me, that he has since found by experiment, that a Barometer of this sort may be suspended, at such a height above the basin, that its motion will have a tendency to make its mean height less than it would be in a Barometer at rest; and from thence has been enabled to determine the point where it may be suspended, so that the mercury will neither have a tendency to ascend or descend; and of course in a barometer, thus suspended, the mercury will be perfectly at rest.

The Thermometers had nothing particular in them, farther than what is remarked at the end of the Meteorological Observations; but it would not be amiss if Thermometers, which are intended for expeditions of this sort, had a more extensive scale. The scale of those which I had extended from about 0 to 120.—The Theodolite, and Gunter's Chain, are too well known to need describing here.

The Wind gage has already been very fully described by its inventor, Dr. Lind, in the Philosophical Transactions, vol. lxxv. p. 353.
for

for the year 1775. Such an instrument would undoubtedly be very useful, if it could be made with a scale somewhat more extensive than that I made use of. In it, the water never rose more than nine tenths of an inch in the strongest gulls, and would then vibrate from that point to nothing.

The apparatus for trying the heat of the sea water at different depths, consisted of a square wooden tube, of about 18 inches long, and three inches square externally. It was fitted with a valve at the bottom, which opened inward, and another at its top, that opened outward, and had a contrivance for suspending the Thermometer exactly in the middle of it. When it was used, it was fastened to the deep-sea line, just above the lead, so that all the way as it descended the water had a free passage through it, by means of the valves, which were then both open, but the instant it began to be drawn up, both the valves closed by the pressure of the water, and of course the Thermometer was brought up in a body of water, of the same temperature with that it was let down to.

I come now to speak of the Time-keepers, three of which were made by Mr John Arnold, and the fourth by Mr Isaac Kendall, on the principles of that late most excellent artist, Mr John Harrison. I have nothing to say concerning the principles on which they were constructed: these of the latter are now well known, and I am not acquainted with those of the former. The merits of each will be best seen from the observations themselves, and I have therefore no need to add any thing on that head. I wished to have given a short history of what had been done, this way, towards finding the longitude at sea, but, on examination, can find no certain accounts of what was done by the respective persons who have

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turned their thoughts to this subject; and a bare recital of their names would be neither useful nor entertaining. I have therefore only to add, and I am certain it will be confirmed by every sea-faring Person who has experienced it, that a good machine of this kind is an inestimable companion at sea.

All the observations which were made on shore are put down literally as they were taken, that is, in the very numbers that were read off, and the times shewn by the clock: and, to avoid any errors that might happen in transcribing, the proof-sheets were all read by the original books. In delivering the observations which were made at sea, it was judged sufficient to give the means only, as the whole, in their original form, would have been too voluminous, and could answer no useful purpose, which will not now be equally fulfilled. Every mean was taken by two persons, separately, and carefully compared, and corrected, where necessary, by myself; so that, I hope, very few errors have crept in here. I have annexed the name of the observer to all those observations which were not made by myself, and taken care to specify such remarks as were made by him at the time of making them. The deductions from Mr. Bayly's observations were in general made by himself; and it is particularly mentioned where they are done by me, that he may not be blamed for errors which are not his own.

There are two or three characters made use of in this work, which it will be proper to explain, although they are now generally known to Astronomers.

: Signifies that the number, after which it stands, is, on some account or other, a little doubtful.

:: Placed

Placed in like manner, means very doubtful

After some few of Mr Bayly's observations, taken on shore, the characters + or — occur the former means that one fourth of a second must be added to, and the latter, that one fourth of a second must be subtracted from, the number against which it stands

Every sheet has been read over until no errors could be found in it, before it went to the press, and therefore, I hope, few can have escaped me some, no doubt, there will be; but for which, every person, who knows the difficulty of compiling and correcting a work of this nature, and of such an extent, will, I am persuaded, make candid allowance, if his good-nature be not too far trespassed on

I cannot conclude, without observing that I have once, in the course of this work stepped out of my province, and taken a liberty which I would wish not to be censured for I had been at some pains to determine the situations of a group of small islands, to which I cannot find that any name has been assigned by Capt Cook I have therefore ventured to call them by the name of a person to whom I owe very much indeed, one who took me by the hand when I was friendless, and never forsook me when I had occasion for his help, and who, I hope, will not be offended at this public acknowledgment of his favours

W WALES

ASTRONOMICAL OBSERVATIONS,

M A D E A T

Different Places on Shore

B

ASTRONOMICAL OBSERVATIONS

1

Observations on Drake's Island, in Plymouth Sound, by Mr Bayley

1772	Times by the Clock of equal Altitudes			Zenith Distance	Time of apparent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire.			
	"	H	"	"	H	
June 30	Set up the Clock marked C, and set it going; the pendulum being exactly of the same length as when going at Greenwich, when it lost at the rate of 0 373 a day on Syderial time					
	38 18 _r	2 41 15	44 12	53 40 0		O's U L } O's L L } Easterly
	41 40	2 44 37 _r	47 36			
	59 29	3 2 29	5 31 _r	50 20 0		O's U L } O's L L }
	2 54 _r	3 5 54 _r	8 56			
July 1	At	7 20 29	M. Arnold showed o h 55'	6 45 02,4		Clock 1 17' 4 bef Syderial time
	27 6	10 24 4	21 7 _r			
	30 31	10 27 31	24 29	50 20 0		O's U L } O's L L } Westerly
	48 18	10 45 20				
	51 42	10 48 33 _r	45 45	53 40 0		O's U L } O's L L }
	41 25	1 45 22				
	44 45 _r			63 20 0		O's U L } O's L L } Easterly Very cloudy
		2 17 2				
	17 26	2		58 9 0		O's U L } O's L L }
2 — 2	At	7 4 57	No. s showed o h 36			
	20 3	11		58 9 0		O's L L } O's U L } Westerly
		11 20 25 _r				
	52 39			63 20 0		O's L L } O's U L }
	56 0 _r	11 52 4				
	11 21	1 44 18	47 16	64 0 0		O's U L } O's L L } Easterly
	44 43		50 40			
3 — 3	At	7 17 28	No. s showed o h 45	6 52 34,5		Clock 33" 8 before Syderial time.
	0 16		54 22			
	3 37 _r	12 0 39 _r	57 42	64 0 0		O's L L } O's U L } Westerly
4 — 4	At	9 4 16	No. s showed 2 h 28			
	28 9	1 31 8		67 24 0		O's U L } O's L L } Easterly
	31 32	1 34 31	37 31 _r			
5 — 5	At	7 33 31	No. s showed o h 54	7 00 08,6		Clock 6" 1 after Syderial time
	28 32	12 25 34	22 35			
	31 55	12 28 56 _r		67 24 0		O's L L } O's U L } Westerly
	16 25	1 29 24 _r	32 24 _r			
	29 47	1 32 49 _r	35 47 _r	68 20 0		O's U L } O's L L }
	55 13	1 58 13				
	58 34 _r			63 48 0		O's U L } O's L L } Easterly
	7 42	2 10 40	13 35 _r			
	11 2	2 13 59 _r		61 50 0		O's U L } O's L L }
6 — 6	At	7 17 58	No. s showed o h 35			
				7 3 54,3		Clock 27 after Syderial time.

ASTRONOMICAL OBSERVATIONS.

Observations by Mr. Bayley, at Drake's Island, Continued.

1772.	Times by the Clock of equal Altitudes.			Zenith Distance.	Time of apparent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
	H	H	H	0	H	
July 6.	56 36 $\frac{1}{2}$	11 53 38	—	61 50 0		☉'s L. L.
	59 53	11 57 0	54 2 $\frac{1}{2}$			☉'s U. L.
	9 1 $\frac{1}{2}$	12 —	—	63 48 0		☉'s L. L.
	12 20 $\frac{1}{2}$	12 9 24 $\frac{1}{2}$	—			☉'s U. L.
	37 46	12 34 46 $\frac{1}{2}$	31 47	68 20 0		☉'s L. L.
		12 38 10	35 9 $\frac{1}{2}$			☉'s U. L.
8.	At	8 12 9	No. 2 showed	1 h 22" 0		☉'s U. L.
	41 35	2 44 31	47 28	58 30 0		☉'s L. L.
	44 55	2 47 53	50 51			☉'s U. L.
		3 5 59	8 57 $\frac{1}{2}$	55 6 0		☉'s L. L.
	6 24	3 9 21 $\frac{1}{2}$	—			☉'s U. L.
9.				7 15 15,9		Clock 1' 23" after Syderial time.
	23 58	11 20 58	—	55 6 0		☉'s L. L.
		11 24 22 $\frac{1}{2}$	21 24 $\frac{1}{2}$			☉'s U. L.
	45 22	11 42 24 $\frac{1}{2}$	39 29	58 30 0		☉'s L. L.
	48 43 $\frac{1}{2}$	11 45 46 $\frac{1}{2}$	42 51			☉'s U. L.

Observations for the Latitude of the Place, by Mr. Bayley.

1772.	Zenith Distance.	Latitude.	Barometer.	Phenomena.
July 1.	27 31 36	50 21 20	30,27	☉'s L. L.
2.	27 36 16 $\frac{1}{2}$	50 21 30 $\frac{1}{2}$	30,20	☉'s U. L.
3.	27 41 16 $\frac{1}{2}$	50 21 31	30,23	☉'s L. L.
7.	42 3 33	50 21 29	30,11	☉'s U. L.
	37 36 10	50 21 26 $\frac{1}{2}$	30,11	☉'s L. L.
9.	28 19 8	50 21 35	30,00	☉'s U. L.

The mean is 50 21 28 $\frac{1}{2}$ N. Latitude.

The Clock's Rate of going.

1772.	Clock C. loses Syderial Time.	Clock gains on Syderial time.
July 1.	1 17,4	22,9
2.	0 54,5	20,7
3.	0 33,8	19,95
	After	
5.	0 6,1	20,9
6.	0 27,0	18,67
9.	1 23,0	

Mean Rate of losing 20,625

Observations at Drake's Island, Continued

Observations of the Sun, Moon, and Stars, made with the Transit Instrument placed nearly in the Meridian

1772	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	Phenomena and Remarks
	"	"	H	"	"	
5 July 7	52 54 ¹ 22 17 11 58 37 34	53 36 ¹ 22 59 ¹ 12 38 ¹ 38 15 ¹	12 54 18 ¹ 17 23 43 19 13 21 19 38 58 ¹	54 54 24 25 14 3 39 41	55 44 ¹ 25 8 14 44 40 22 ¹	☽ s First Limb α Ophiuchi δ Aquilæ α Aquilæ
It appears from the observations of α Ophiuchi and α Aquilæ, that the instrument was west of the true meridian 3 37 ; that is, it cut the Meridian in the Zenith under that angle moved a little to the eastward						
8 — 8	49 8 2 41 ¹ 30 32 ¹	49 51 3 25 31 14 13 34	13 50 35 ¹ 14 4 9 ¹ 15 31 55 ¹ 16 14 21 ¹ 17 23 12	51 19 ¹ 4 54 ¹ 32 38 ¹ 15 8 ¹	52 14 5 37 ¹ 33 19	☽ s First Limb Arcturus α Serpentis Antares α Ophiuchi
14 — 9	12 33 ¹ 14 49 ¹	13 18 ¹ 15 35 ¹	7 14 3 ¹ 16 21	17 6 17 51		☉ s First Limb ☉ s Second Limb

By comparing these observations of the Sun's Transit with the equal altitudes, it appears that the vertical, in which the instrument moved, after it had been altered on the 7th, made an angle with the true Meridian of 1 46"; the southern semi circle of that vertical lying so much to the eastward. The two transits of α Ophiuchi, when compared together, make the arch of the Horizon intercepted between the two verticals in which it moved, before and after the alteration, 4 49"; and of course the angle, under which it cut the Meridian after the alteration was 1 12 ; but the transits of the three stars Arcturus, α Serpentis, and Antares, when compared with their apparent right ascensions, make the angle only 23 the mean of the three is 1 7" of a degree. It happened, very unfortunately, that no Observations, corresponding to these were made at Greenwich, nor by the late Dr Bradley in 1754, or 223 complete lunations before, namely, on June 27th and 28th but I have endeavoured to correct the Tables from two Observations, made by that excellent Astronomer June 24th and 29th, and by comparing the right ascensions of the Moon, deduced from the preceding Observations, with the Tables so corrected I make the Longitude of Drake's Island 4° 18 52 W of Greenwich. The Rev Mr Maskelyne, Astronomer Royal, by means of Martin's Map of Cornwall, and the situation of the Lizard Point, as given by Mr J Bradley's Observations, (See Preface to Nautical Almanack for 1771) makes the Longitude of Drake's Island 4° 13 23 W. If I take 4° 16¹ W the mean of these two determinations, it may perhaps be nearer than either, as both are in some measure uncertain

Observations at Drakes Island, Continued

The Clock, by which the times were taken, was fixed up very firmly to an oak plank, 11 inches broad, and 2¹/₂ thick, let three feet into the ground, and well braced on each side. It was marked C, which is necessary to be noted as some of the following Observations were taken by another which is marked B. The pendulum, all the time, vibrated 1^o 50 each way from the perpendicular.

All the computations were made by Mr Bayley, except the times of apparent noon and rate of the Clock's going, which were recomputed by myself.

On Friday, July the 10th, in the evening, the three Time keepers, N^o 1, 2, 3, made by Mr Arnold, were set agoing by himself nearly to mean time and I set that made by Mr Kendall, on Mr Harrison's principles agoing also. At 13 h 0 6' by the Clock, the watches N^o 1 and 2 shewed each of them 5 h 45; from whence Mr Bayley computed that they were 12 too slow for mean time at this place. At 14 h 15 by the Clock, Mr Kendall's watch shewed 6 h 59 52¹/₂; and at 14 h 28' Mr Arnold's watch, N^o 3, shewed 7 h 12 39¹/₂; from whence I computed, that the former was too fast for mean time by 7 10ths of a second, and the latter too slow by 10¹/₂ at the times of comparison. N^o 1 and 2 were taken on board, the Adventure by Mr Bayley, and N^o 3, together with that made by Mr Kendall, were carried by myself on board of the Resolution. The Rev Mr Maskelyne, Astronomer Royal, had previously found the rates of going of N^o 1, 2, and 3, to be respectively gaining 4 5ths of a second; gaining 14¹/₂, 15, and losing 14¹/₂, 63; and that the rate of Mr Kendall's was 5 8ths of a second a day losing, all on mean time. Mr Bayley computed, from the preceding comparisons, that N^o 2 got, while here only, 6, 057 a day.

Observations for the Variation of the Compass					Observations for the dip of the Needle's N ^o End					
1772	Time by the Clock	The Sun's Zenith Distance	Magnetic azimuth	Variation West	1772	Dip of the Needle's N ^o End Face of the Instrument				
	H	"	"	"		East	West			
24 July 9	Observed with a Compass made by Gregory									
	13 45 30	77 29 36	N 49 27 W	20 37	2 July 10	72 45	71 15			
	46 38	77 29 0	48 20	21 22		72 50	71 30			
	51 12	78 0 38	47 35	21 29		72 55	71 20			
	Observed with a Compass made by Adams							Means	72 50	71 21½
	13 54 48	78 35 0	N 46 00 W	22 21½	Mean of the two	72 51½	71 22½			
56 49	78 50 0	45 45	22 18							
.	59 6	79 10 0	45 15	22 23						
The mean of all is 21 45½										
By placing the Compass in the meridian, and turning the index to the meridian mark, the variation was found to be					21 13½					
The mean of both is 21 29½										

ASTRONOMICAL OBSERVATIONS

5

Observations made at the British Consul's House, at Funchial, on the Island of Madeira

1772	Equal Altitudes Time by the Clock marked B			Zenith Distance	Time of apparent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
	" "	" "	" "			
4 July 30	19 17 21 50 32 24 34 57	4 21 22 23 58 $\frac{1}{2}$ 4 34 29 $\frac{1}{2}$ 4 37 5 $\frac{1}{2}$	26 4 36 35 39 11	59 40 0 56 40 0 56 40 0	8 42 33,28	<div> <div> <div>0 s U L</div> <div>0's L L</div> </div> <div> <div>0 s U L</div> <div>0's L L</div> </div> </div> Easterly
8 — 31	49 58 $\frac{1}{2}$ 52 28 21 53 24 29 $\frac{3}{4}$ 33 1	12 47 52 $\frac{1}{2}$ 12 50 24 $\frac{1}{2}$ 4 24 0 26 36 4 35 7 $\frac{1}{2}$	45 46 $\frac{1}{2}$ 48 19 $\frac{3}{4}$ 26 5 28 41 $\frac{1}{2}$ 37 14	56 40 0 59 40 0 57 20 0 57 20 0	8 45 49,88	<div> <div>0's L L</div> <div>0's U L</div> </div> <div> <div>0's L L</div> <div>0's U L</div> </div>

Hence it appears that the Clock lost 36",6 a day on Syderial time

1772	Observed by Mr Bayley Time by the Clock marked C.	Zenith Distance	Time of passing the Meridian	Phenomena and Remarks
2 July 31	At 13 h 31 39 $\frac{1}{2}$ " by B, it was 13 h 31 0" by C At 22 h 24' 0", the Clock B shewed 22 h 24' 54"			
	31 48 $\frac{1}{2}$ 16 34 8 $\frac{1}{2}$ 36 29 }		19 36 32,8	* Aquilæ, Eastward
	41 18 $\frac{1}{2}$ 22 38 56 $\frac{1}{2}$ 36 35 }			* Aquilæ, Westward
	29 31 3 31 47 $\frac{1}{2}$ 34 4 $\frac{1}{2}$ }	70 21 0		0 s U L
	32 5 $\frac{1}{2}$ 3 34 21 $\frac{1}{2}$ 36 36 $\frac{1}{2}$ }			0's L L
	43 2 3 45 17 $\frac{1}{2}$ 47 34 }	67 33 0		0's U L
	47 52 50 4 $\frac{1}{2}$ }			0's L L
	2 52 4 5 7 $\frac{1}{2}$ 7 23 $\frac{1}{2}$ }	63 25 0		0's U L
	5 25 $\frac{1}{2}$ 7 40 $\frac{1}{2}$ 9 53 $\frac{1}{2}$ }			0's L L

At 4 h. 58 55 $\frac{1}{2}$ " by C, it was 5 h. by B

ASTRONOMICAL OBSERVATIONS

Observations at Fonchial, Continued

1772	Equal Altitudes Time by the Clock C			Zenith Distance	Time of apparent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
	H	H	H	H	H	
5 August 1	At 8 h 44' 49 ¹ / ₂ B shewed 8 h 46' 0"				8 44 40,2	
	23 42	13 21 27	19 13 ¹ / ₂	63 25 0		0's L L
	26 15	24 0	21 46			0's U L
	—	13 41 17	39 1 ¹ / ₂	67 33 0		0's L L
	46 1	43 46	41 35 ¹ / ₂			0's U L
	—	13 54 43	52 27 ¹ / ₂	70 21 0		0's L L
	—	57 17	—			0's U L

• Hence the Clock C seems to have lost at the rate of 1 15" a day on Syderial time

Whilst we were here, the Thermometer stood from 74° to 72¹/₂°

All the computations were made by myself

The Observations were made at the house of the British Consul, which is about 200 yards, nearly due east, from the place where the late Dr Thomas Heberden made his Observations

The Clocks stood on a brick floor, and were screwed fast to a large book case, full of books, and which was fastened in a very firm manner to the wall of the house

The pendulum of B vibrated 1° 40 on each side of the perpendicular, and that of C 1° 53

Comparisons of Mr Kendall's Watch with the Clock B			Comparisons of Mr Arnold's Watch (No 3) with the Clock B		
1772	Time by B		1772	Time by B	
	H	"		H	"
2 July 31	9 35 38	1 50 0	2 July 31	9 36 37 ¹ / ₂	1 35 0
	13 39 0	5 52 47		13 40 21	5 38 0
	4 44 18 ¹ / ₂	20 56 0		4 42 0	20 37 0
	8 28 50	12 40 0		8 26 39 ¹ / ₂	0 21 0
5 August 1	14 4 37	6 15 0	5 August 1	14 6 42	6 0 0
Comparisons of Mr Arnold's Watch (No 1) with the Clock C			Comparisons of Mr Arnold's Watch (No 2) with the Clock C		
1772	Time by C		1772	Time by C	
	H	"		H	"
2 July 31	9 33 13 ¹ / ₂	1 47 0	2 July 31	9 34 0 ¹ / ₂	2 42 0
	13 35 40	5 49 0		13 37 29	6 45 0
	8 33 46	0 45 0		8 35 39 ¹ / ₂	1 41 0

Observations at Fonchul, Continued

If r be put for the Clock's gain on the Watch in any given time (a) shewn by the Clock, as for example, between any two times of comparison, v for the time shewn by the Clock, between the comparison and nearest apparent noon, and A for the time by the Watch when the comparison was made then I say that the time shewn by the Watch at the apparent noon, or time of the sun's centre being on the meridian, will be expressed by $A \pm v \mp \frac{vr}{a}$ the upper signs having place when the comparison is made before, and the lower ones when it is made after noon; but if the Watch goes faster than the Clock, it will be just the contrary and by making use of this formula, and computing from the above Observations, and comparisons of the Time keepers therewith, I find that the several rates of the three, made by Mr Arnold, and marked No 1, 2 and 3 were, gaining 2,31 gaining 55,89, and losing 56",9 on mean time in 24 h; and that the Watch made by Mr Kendall, on Mr Harrison's principles, was losing 1,77 on mean time in the same space

Observations at the Cape of Good Hope

1772	Equal Altitudes Time by Clock marked B			Zenith Distance	Time of ap- parent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
		11		*	H	
○ Nov 1	45 58 18 36	10 48 14 50 54'	53 10	{ 53 9 0		○ s U I } 1 afterly ○ s I L } W B
○ — 2	14 51 17 29	18 12 33 18 15 14	10 19'	{ 53 9 0	14 31 36,7	○ s I I } Westerly ○ s U I } W B
○ — 3	0 26 2 55 16 44	10 2 33 5 12 19 0 21 34	4 49 7 26 21 16 23 54	{ 63 24 0 60 0 0		○ s U L } 1 afterly ○ s I I } W B ○ s U I } ○ s L L }
○ — 4	57 36 11 27 20 15 22 55	18 52 42 18 55 21 19 9 9 19 11 47 10 22 33 25 10	50 27 53 4 6 54 9 32 27 24	{ 60 0 0 63 24 0 59 40 0	14 37 2,4	○ s I I } Westerly ○ s U I } Exceed ○ s L L } ing strong ○ s U L } wind ○ s U I } Easterly ○ s L L }
○ — 5	56 48 59 25	18 54 30	52 11 54 52	{ 59 40 0	14 39 42,6	○ s I I } Westerly ○ s U I }
○ — 6						

Observations at the Cape of Good Hope, Continued

1772	Equal Altitudes Time by the Clock marked B			Zenith Distance	Time of apparent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
	H	"	"			
♀ Nov 6	5 1	10 7 19	9 35½	63 40 0		O s U I
	7 41	9 57½	12 13½			O s L L
	16 20	10 18 35	20 53			O s U L
	18 58	21 13½	23 30			O's L L } Easterly
♂ — 7	11 45	19 9 28½	7 12½	61 20 0	14 45 13,76	O's L L
	14 24½	12 8	9 50½			O s U L
	23 3	19 20 46	18 29½			O s L L
	25 41½	23 25	21 9½			O s U L } Westerly
	6 12	10 8 28½	10 44½	63 51 0		O s U L
	8 50	10 11 6	13 22½			O s L L
	23 37½	10 25 53½	28 9½			O's U L } Easterly
	26 15	10 28 32½				O's L L } Easterly
○ — 8	10 2	19 7 45		60 15 0	14 48 0,71	O's L L } W B
	12 38½	10 23½	8 7½			O's U L
	27 27½	19 25 11	22 55			O's L L } Westerly
	30 6½	27 49½	25 32½			O s U L } Westerly
	41 14½	11 43 32	45 51½	44 40 0		O s U L
	+3 54½	46 14	48 31½			O's L L
	52 45½	11 55 2½	57 23			O s U L } Easterly
	55 28½	57 47½	0 5			O's L L } Easterly
♂ — 9	46 16½	17 43 58	41 39	42 20 0	14 50 46,45	O's L L
	48 59½	46 41	44 21			O s U L
	57 47½	17 55 29½	53 12			O's L L } Westerly
	0 28	58 11	55 52½			O's U L } Westerly
	23 25½	10 25 40½	27 59½	61 10 0		O s U L
	16 3½	28 20½	30 37			O's L L } Easterly
♂ — 10	21 2½	19 19 7½	16 51½	61 10 0	14 53 36,82	O's L L } W B
	24 2½	21 47	19 30½			O's U L } Westerly
♂ — 11	58 23½	10 0 41½	2 57	67 12 0		O's U L
	1 3	10 3 20½	5 36½			O's L L
	9 5½	10 11 22½	13 38			O's U L } Easterly W B
		10 14 2½				O's L L } Easterly
♂ — 12		19 44 35½		65 0 0	14 59 11,36	O's L L
	49 33	47 16½	44 58½			O's U L
	57 35½	19 55 18½	53 1½			O s L L } Westerly W B
	0 16	57 59½	55 41½			O's U L } Westerly

Observations at the Cape of Good Hope, continued

1772	Equal Altitudes Time by Clock B			Zenith Distance	Time of apparent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
	H	"	"			
21 Nov 12	40 22	12 39 58½		35 0 0		O's 1st L } Easterly
2 — 13	23 52	17 24 16		35 0 0	15 2 2½	O's 1st L } Westerly
	3 15	10 5 32½	7 50½	67 6 0		O's 1st L } Easterly
	5 55½	8 14½	10 29½	64 0 0		O's 1st L } Easterly
	18 23½	10 20 39	22 56	64 0 0		O's 1st L } Easterly
	21 2½	23 19½	25 35½	64 0 0		O's 1st L } Easterly
2 — 14	49 57	19 46 40½	44 24	64 0 0	15 4 52,7	O's 1st L } Westerly
	51 37	49 20½	47 3½	64 0 0		O's 1st L } Westerly
	4 5	20 1 48	59 31½	67 6 0		O's 1st L } Westerly
	6 45½	4 28½	2 11½	67 6 0		O's 1st L } Westerly

Observed times when the Sun's and Moon's Limbs, and fixed Stars transited the Meridian, together with the Comparisons of the Clocks with each other

1772	Time by the Clock marked C					
	1st Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	
	"	"	H	"	"	
28 Nov 3	At 10 h 9 22 by B, it was 10 h 9 0 by C					O's 1st Limb } O's 2nd Limb } W B
4	36 38½	37 20½	14 35 49	36 34	37 16½	
			38 5½	38 49½	39 31	
	At 14 h 41 0" by B, it was 14 h 40 35½ by C					O's 1st Limb } O's 2nd Limb } W B
	At 19 h 1 26' by B, it was 19 h 1 0 by C					
	38 21½	39 3½	22 39 45½	40 29½	41 11	
		48 59	22 49 42½	50 25½		O's 1st Limb } O's 2nd Limb } Pegasi } W B
	At 10 h 41 32½ by B, it was 10 h 41 0" by C					
	At 14 h 50 35½ by B, it was 14 h 50 0" by C					
24 — 5	23 31½	24 13	23 24 56½	25 39	26 20½	O's 1st Limb } O's 2nd Limb } Pegasi } Andromeda } Andromeda } W B
		55 30	23 56 13½	56 57½		
		2 39	0 3 27½	4 16½		
		20 38	0 21 27	22 15½		O's 1st Limb } O's 2nd Limb } cloudy } W B
	At 11 h 0' 0" by B, it was 10 h 59 11½ by C					
2 — 6	41 37½	42 21	14 40 49½	41 33½	42 16½	
	At 14 h 52 0 by B, it was 14 h 51 9½ by C.					

Observations at the Cape of Good Hope, Continued

1772	Transits of the Sun, Moon and Stars over the Meridian Time by the Clock C					Phenomena and Remarks		
	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire			
			H	"				
♀ Nov 6	45 50½	46 31½	21	47 56½	48 36½	α Aquarii	} W B	
	45 17½	45 59½	22 46 43	47 26½	—	α Pegasi		
	53 19	54 2½	23 54 45½	55 29½	—	γ Pegasi		
	8 21	9 2½	0 9 45½	10 29	11 10½	δ 1st Limb		
	At 0 h 14 0 by B, it was 0 h 13 3½ by C							
	46 6½	46 50½	1 47 36½	48 22½	—	α Arietis		
	At 10 h 26 1½ by B, it was 10 h 25 0 by C							
	41 52½	42 36	14 43 19½	44 3½	—	0 s First Limb		
	—	44 51	45 35	46 19½	47 1½	0 s Second Limb		
	At 14 h 51 0 by B, it was 14 h 49 56 by C							
♂ — 7	At 19 h 27 7½ by B it was 19 h 26 0 by C							
	44 19½	45 1½	21 45 43½	46 26	47 7½	α Aquarii		
	47 1½	47 48	23 48 35½	49 23	50 9½	α Andromeda		
	—	52 31	23 53 14	53 53	—	γ Pegasi		
	53 23	54 6	0 51 48	55 30½	56 1½	δ 1st Limb		
	At 0 h 59 0 by B it was 0 h 57 47 by C							
	At 10 h 15 18½ by B it was 10 h 14 0 by C							
	This forenoon we examined and adjusted the line of collimation of the instrument, and at noon endeavoured to bring it into the plane of the Meridian, by keeping the Sun's first limb at the middle wire, until the Clock shewed the time at which it ought to pass it according to computation; but the screw which turns the instrument round in azimuth was too fine to keep pace with the Sun's diurnal motion. Mr Bayley then noted its transit at the following wires							
	0 Nov 8	—	—	14	46 26	47 8½	0 s 1st Limb	} W B
		46 30½	47 13½	14 47 57½	48 42	—	0 s Last Limb	
At 19 h 17 24½ by B, it was 19 h 16 0 by Clock C								
At 12 h 11 32½ by B, it was 12 h 10 0 by C								
Moved the Transit Instrument yet nearer to the Meridian and fixed up two Meridian marks, one at about a mile and a half, and the other about half a mile distant								
♂ Nov 9	—	47 29½	14 48 13½	48 57½	—	0 s First Limb	} W B	
	—	49 45½	50 30	51 14	—	0 s Second Limb		
	At 14 h 54 0 by B, it was 14 h 52 27 by C							
	At 18 h 1 34½ by B it was 18 h 0 0 by C							
	40 28	41 10½	22 41 54	42 38½	43 20	α Pegasi		
	41 15	41 59½	1 42 44½	43 30½	44 14½	α Arietis		
	Cloudy	26 51½	2 27 39½	28 23½	29 5½	δ 1st Limb		
	At 2 h 39 0 by B, it was 2 h 37 21½ by C							
	At 10 h 18 42½ by B, it was 10 h 17 0 by C							

Observations at the Cape of Good Hope, Continued

1772	Transits of the Sun, Moon, and Stars, over the Meridian Time by the Clock C					Phenomena and Remarks
	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	
	H		H			
8 Nov 10.	49 24 51 40 $\frac{1}{2}$ 42 9 $\frac{1}{2}$ 47 4 $\frac{1}{2}$ 39 48 $\frac{1}{2}$ 35 46 $\frac{1}{2}$ 15 3 $\frac{1}{2}$ 17 11 $\frac{1}{2}$ 8 10 $\frac{1}{2}$	50 7 $\frac{1}{2}$ — 42 56 $\frac{1}{2}$ 47 47 $\frac{1}{2}$ 40 33 $\frac{1}{2}$ 36 27 $\frac{1}{2}$ 15 47 $\frac{1}{2}$ 17 55 $\frac{1}{2}$ 8 53 $\frac{1}{2}$	14 50 51 $\frac{1}{2}$ 53 7 $\frac{1}{2}$ 23 43 43 $\frac{1}{2}$ 23 48 30 $\frac{1}{2}$ 1 41 18 $\frac{1}{2}$ 2 37 9 $\frac{1}{2}$ 3 16 32 $\frac{1}{2}$ 18 40 $\frac{1}{2}$ 4 9 37 $\frac{1}{2}$	51 36 53 52 44 31 $\frac{1}{2}$ 49 14 $\frac{1}{2}$ 42 4 $\frac{1}{2}$ — 17 17 $\frac{1}{2}$ 19 25 $\frac{1}{2}$ 10 21 $\frac{1}{2}$	— 51 35 45 17 $\frac{1}{2}$ 49 56 $\frac{1}{2}$ 42 48 $\frac{1}{2}$ 38 32 $\frac{1}{2}$ 18 0 $\frac{1}{2}$ 20 8 $\frac{1}{2}$ 11 4 $\frac{1}{2}$	<div> O's First Limb O's Second Limb α Andromeda γ Pegasi α Arietis α Ceti O's First Limb O's Second Limb Aldebaran </div>
At 10 h 41' 51 $\frac{1}{2}$ " by B, it was 10 h 40' 0" by C	52 1 54 17 $\frac{1}{2}$	52 44 $\frac{1}{2}$ 55 1 $\frac{1}{2}$	14 53 28 $\frac{1}{2}$ 55 45 $\frac{1}{2}$	— 56 30	— 57 12 $\frac{1}{2}$	<div> O's First Limb O's Second Limb </div>
At 15 h 1' 0" by B, it was 14 h 59' 6 $\frac{1}{2}$ " by C	At 10 h 18' 0" by B, it was 10 h 16' 0" by C	54 41 —	55 24 $\frac{1}{2}$ 57 41 $\frac{1}{2}$	14 56 8 $\frac{1}{2}$ 14 58 25 $\frac{1}{2}$	56 52 $\frac{1}{2}$ 59 10 $\frac{1}{2}$ 59 52 $\frac{1}{2}$	<div> O's First Limb O's Second Limb </div>
At 15 h 7' 2" by B, it was 15 h 5' 0" by C	At 20 h 2' 4" by B, it was 20 h 0' 0" by C	36 57 $\frac{1}{2}$ 59 35 $\frac{1}{2}$ 25 13 $\frac{1}{2}$	37 42 $\frac{1}{2}$ 0 20 $\frac{1}{2}$ 25 54 $\frac{1}{2}$	1 38 28 5 1 51 5	39 14 $\frac{1}{2}$ 1 51 $\frac{1}{2}$ 27 19 $\frac{1}{2}$ 39 57 $\frac{1}{2}$	<div> α Arietis O's Second Limb α Orionis </div>
At 5 h 8' 8" by B, it was 5 h 6' 0" by C	At 12 h 56' 11 $\frac{1}{2}$ " by B, it was 12 h 54' 0" by C	57 19 —	58 2 $\frac{1}{2}$ 0 19 $\frac{1}{2}$	14 59 46 $\frac{1}{2}$ 15 1 3 $\frac{1}{2}$	59 40 $\frac{1}{2}$ 1 47 $\frac{1}{2}$ 2 31	<div> O's First Limb O's Second Limb </div>
At 15 h 7' 0" by B, it was 15 h 4' 47 $\frac{1}{2}$ " by C	At 6 h 24' 0" by B, it was 6 h 21' 40" by C	23 47 52 29 15 47	24 28 53 13 $\frac{1}{2}$ 16 30 $\frac{1}{2}$	5 25 10 $\frac{1}{2}$ 5 53 57 $\frac{1}{2}$ 6 17 14	25 53 $\frac{1}{2}$ 54 44 $\frac{1}{2}$ Cloudy	<div> α Orionis O's Second Limb Syrius </div>
At 10 h 27' 21 $\frac{1}{2}$ " by B, it was 10 h 25' 0" by C	At 15 h 7' 23 $\frac{1}{2}$ " by B, it was 15 h 5' 0" by C	59 59 $\frac{1}{2}$ —	0 42 $\frac{1}{2}$ 3 0 $\frac{1}{2}$	15 1 26 $\frac{1}{2}$ 15 3 44 $\frac{1}{2}$	2 11 $\frac{1}{2}$ 4 29 $\frac{1}{2}$	<div> O's First Limb O's Second Limb </div>
At 20 h 7' 27" by B, it was 20 h 5' 0" by C	—	—	40 23 $\frac{1}{2}$ 46 5 $\frac{1}{2}$	6 41 7 $\frac{1}{2}$ 6 45 45 $\frac{1}{2}$	41 51 $\frac{1}{2}$ —	<div> Supposed 51st of Gemine See Bri tish Catalogue 2da ad λ Gemino </div>

ASTRONOMICAL OBSERVATIONS.

Observations at the Cape of Good Hope, Continued.

Transits of the Sun, Moon, and Stars, over the Meridian. Time by the Clock C.						Phenomena and Remarks.
First Wire.	Second Wire.	Middle Wire.	Fourth Wire.	Fifth Wire.		
"	"	H "	"	"		
1772.						
Nov. 14.		46 37 $\frac{3}{4}$	6 47 33 $\frac{1}{4}$	48 9 $\frac{1}{4}$		
	6 43 $\frac{1}{4}$	0 8 $\frac{1}{4}$	7 0 58 $\frac{1}{4}$	1 48 $\frac{1}{4}$		
		7 25 $\frac{1}{4}$	7 8 7 $\frac{1}{4}$		9 30 $\frac{3}{4}$	
		11 26 $\frac{1}{4}$	12 14 $\frac{1}{4}$	13 2 $\frac{1}{4}$		
	At 7 h. 18' 32 $\frac{1}{4}$ " by B, it was 7 h. 16' 0" by C.					
	At 10 h. 38' 34" by B, it was 10 h. 36' 0" by C.					
Nov. 15.	2 38 $\frac{1}{4}$	3 21 $\frac{1}{4}$	15 4 6 $\frac{1}{4}$	4 50 $\frac{1}{4}$		
		5 39 $\frac{1}{4}$	6 23 $\frac{1}{4}$	7 8 $\frac{1}{4}$	7 51 $\frac{1}{4}$	
	At 15 h. 13' 0" by B, it was 15 h. 10' 23 $\frac{1}{4}$ " by C.					
D's Second Limb. Castor. Procyon. Pollux. } W. B.						
☉'s First Limb. ☉'s Second Limb.						

Observations for the Variation of the Compaſs.

1772.	Time by the Clock B.		The Sun's magnetic azimuth.	Variation West.		Variation West.	Variation West.
	H	"		°	'	°	'
Nov 13.	20	20 37	N. 79 55 W.	20	1	21 30	20 50
		22 56	80 0	20	13	21 0	20 30
		24 31	80 0	20	25	21 10	21 0
Nov 14.	20	30 30	81 10	19	53	21 15	20 40
		32 39	81 15	20	4 $\frac{1}{2}$	21 0	21 20
		33 20 $\frac{1}{2}$	81 40	19	45	21 20	21 10
		33 56	81 50	19	19 $\frac{1}{2}$	21 15	21 20
		34 58	82 5	19	29 $\frac{1}{2}$	20 30	21 5
		35 11 $\frac{1}{2}$	82 15	19	24	20 20	20 50
	20	39 29	82 35	19	37 $\frac{1}{2}$	20 40	20 40
		40 12	83 0	19	17	20 20	21 5
		41 2	81 5	21	18 $\frac{1}{2}$	20 25	20 50
		42 52	81 20	21	17 $\frac{1}{2}$	20 10	20 35
		43 44	83 40	19	4 $\frac{1}{2}$	20 57	20 55
		44 44	83 45	19	6 $\frac{1}{2}$	The variations contained in these two columns, were got by placing the compass in the meridian, and turning the index to the meridian mark.	
		45 35	83 45	19	13		
		46 22	81 15	21	50		

The mean of all the variations found from the time, is 19° 57' 35"; the mean of all those taken by the Meridian mark, is 20° 55' 4"; and the mean of both is 20° 26 $\frac{1}{2}$ ' West.

Observations at the Cape of Good Hope, Continued

Computations of the Rates at which the two Clocks went

1772		Time of appa rent Noon by Clock B	Syderial Time of apparent Noon	Clock B slow of Syderial Time	Clock B loses on Syderial Time	Clock C loses on B	Clock C loses on Syd time
		H	H	"	"	H	
Nov	2	14 31 36,7	14 32 41,4	1 4,7	1 14,8		
—	4	14 37 2,4	14 40 36,7	3 34,3	1 18,5	10,8	
—	5	14 39 42,8	14 44 35,6	4 52,8	1 14,6	{ 15,2 13,5	
—	7	14 45 13,8	14 52 35,7	7 21,9	1 14,4	17,4	
—	8	14 48 0,7	14 56 37,0	8 36,3	1 16,5	11,6	
—	9	14 50 46,4	15 0 39,2	9 52,8	1 12,6	9,3	
—	10	14 53 36,7	15 4 42,1	11 5,4	1 16,9	{ 9,3 10,7	
—	12	14 59 11,4	15 12 50,7	13 39,3	1 14,8	10 7	
—	13	15 2 2,1	15 16 56,2	14 54,1	1 15,8	10,7	
—	14	15 4 52,7	15 21 3,6	16 9,9			" "
Mean Rate of the Clocks					1 15,43	11,92	1 27,35

Computations of the Rate at which Mr Arnold's Watch (N^o 1) went, by Mr Bayley

1772		Time by the Watch No. 1	Time by the Clock C	Clock C before Watch No. 1	Watch loses o th Clock between Compa rison	Interval of com parison	Watch loses o h Clock twenty four hours	Clock loses on Syd rial time	Watch loses on Syderial time	Watch loses on mean time
		H	H	H	"	H	"	"	"	"
Nov	4	22 6 0	14 48 0	16 42 0						
—	5	22 12 0	14 56 54	16 44 54	2 54	24 6	2 53,3	1 29,0	4 22,3	0 25,8
—	6	22 23 0	15 10 42	16 47 42	2 48	24 11	2 46,6	1 29,1	4 15,7	0 19,2
—	7	21 37 0	14 27 27½	16 50 27½	2 45½	23 14	2 50,9	1 29,1	4 20,0	0 23,5
—	8	21 39 0	14 32 11	16 53 11	2 43½	24 2	2 43,5	1 32,8	4 16,3	0 19,8
—	9	22 6 0	15 2 4½	16 56 4½	2 53½	24 27	2 50,3	1 25,8	4 16 1	0 19,6
—	10	22 7 0	15 5 55	16 58 55	2 50½	24 1	2 50,5	1 25,8	4 16 3	0 19,8
—	11	22 2 0	15 3 45½	17 1 45½	2 50½	23 55	2 51,1	1 26,1	4 17,2	0 20,7
—	12	22 3 0	15 7 37	17 4 37	2 51½	24 1	2 51,5	1 26,1	4 17,6	0 21,1
—	13	22 22 0	15 29 29	17 7 29	2 52	24 19	2 49,6	1 25,9	4 15 5	0 19 0
—	14	22 4 0	15 14 14	17 10 14	2 45	23 42	2 47,2	1 25,9	4 13,1	0 16,6
—	15	22 4 0	15 27 2½	17 13 2½	2 48½	24 0	2 48,5	1 25,9	4 14,4	0 17,9
Mean Rate of the Watch (N ^o 1)										0 20,3

Mr Bayley farther computes, that at the time when this Watch was compared with the Clock, on November 4, it was too slow for mean time, at the Cape, by 1 h 49 9'

Observations at the Cape of Good Hope, Continued.

Computations of the Rate at which Mr. Arnold's Watch (No. 3.) went.

1772.	Time of apparent Noon by the Clock.			Time by the Clock when the Watch was compared.			Time from Noon by the Clock.			Clock's gain on Watch.			Time from Noon by the Watch.			Time by the Watch when com- pared.			Time of ap- parent Noon by the Watch.			Mean Time of apparent Noon.			Watch flow of mean Time.			Watch gains on mean Time.		
	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S
D Nov.	2.	14	31	36,7	14	41	55,1	10	18,55	1	64	10	16,91	19	59	38	19	49	21,09	23	43	47,0	3	54	25,91	1	6,0			
1	3.	14	34	29,5	15	27	12	52	52,5	8	39	52	44,11	20	41	0	19	48	15,84	23	43	47,8	3	55	31,91	1	7,51			
2	4.	14	37	2,4	14	47	54,3	10	51,85	1	73	10	50,12	19	58	0	19	47	9,88	23	43	49,3	3	56	39,42	1	16,06			
3	5.	14	39	42,8	14	58	55,1	19	7,45	3	67	19	3,78	20	5	0	19	45	56,22	23	43	51,7	3	57	55,48	1	44,05			
4	6.	14	42	28,3	15	15	18,7	32	50,2	5	57	32	44,63	20	17	0	19	44	15,37	23	43	54,5	3	59	39,53	1	42,22			
5	7.	14	45	13,8	14	30	33,2	14	39,5	2	45	14	37,05	19	28	0	19	42	37,05	23	43	58,8	4	1	21,75	1	41,29			
6	8.	14	48	0,7	14	32	57	15	3,7	3	14	15	0,56	19	26	0	19	41	0,56	23	44	3,6	4	3	3,04	1	41,15			
7	9.	14	50	46,4	15	3	23,1	12	36,85	1	96	12	34,89	19	52	0	19	39	25,11	23	44	9,3	4	4	44,19	1	33,20			
8	10.	14	53	36,7	15	7	40,1	14	3,8	2	21	14	1,59	19	52	0	19	37	58,41	23	44	15,8	4	6	17,39	1	32,62			
9	11.	14	56	24,0	15	5	52	9	28,0	1	19	9	26,81	19	46	0	19	36	33,19	23	44	23,2	4	7	50,01	1	35,24			
10	12.	14	59	11,4	15	7	6,1	7	54,85	1	0	7	53,85	19	43	0	19	35	6,15	23	44	31,4	4	9	25,25	1	30,17			
11	13.	15	2	2,1	15	31	22	29	19,88	4	96	29	14,92	20	3	0	19	33	45,08	23	44	40,5	4	10	55,42	1	38,19			
12	14.	15	4	52,7	15	17	37,2	12	45,5	2	29	12	43,21	19	45	0	19	32	16,79	23	44	50,4	4	12	33,61					
Mean Rate of the Watch's losing																							1 30,642							

Computations of the Rate that Mr. Kendall's Watch went at.

1772.	Time of apparent Noon by the Clock.			Time by the Clock when the Watch was compared.			Time from Noon by the Clock.			Clock's gain on Watch.			Time from Noon by the Watch.			Time by the Watch when compared.			Time of apparent Noon by the Watch.			Mean Time of apparent Noon.			Watch flow of mean Time.			Watch gains on mean Time.		
	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S
Nov. 2.	14	31	36,7	14	41	55,1	10	18,8	0	1,1	10	17,7	22	23	0	22	12	42,3	23	43	47,0	1	31	4,7	+	0,6				
3.	14	34	19,5	15	29	42	55	22,5	0	6,2	55	16,3	23	8	0	22	12	43,7	23	43	47,8	1	31	4,1	-	1,4				
4.	14	37	2,4	14	45	19,8	8	17,1	0	0,9	8	16,2	22	21	0	22	12	43,8	23	43	49,3	1	31	5,5	-	0,5				
5.	14	39	42,8	14	56	59	17	16,2	0	1,9	17	14,3	22	30	0	22	12	45,7	23	43	51,7	1	31	6,0	+	2,9				
6.	14	42	28,3	15	13	40	31	11,7	0	3,5	31	8,2	22	4,1	0	22	12	51,8	23	43	54,9	1	31	3,1	+	1,7				
7.	14	45	13,8	14	28	14,2	16	59,3	0	1,9	16	57,4	21	56	0	22	12	57,4	23	43	58,8	1	31	1,4	+	1,5				
8.	14	48	0,7	14	34	55,1	13	5,2	0	1,5	13	3,7	22	0	0	22	13	3,7	23	44	3,6	1	30	59,9	+	0,1				
9.	14	50	46,4	15	3	38,1	12	52,1	0	1,4	12	50,7	22	26	0	22	13	9,3	23	44	9,3	1	31	0,0	+	4,0				
10.	14	53	36,7	15	6	18,2	12	41,6	0	1,4	12	40,2	22	26	0	22	13	19,8	23	44	15,8	1	30	56,0	+	2,3				
11.	14	56	24,0	15	7	55,2	11	31,8	0	1,3	11	30,5	22	25	0	22	13	29,5	23	44	23,2	1	30	53,7	+	0,0				
12.	14	59	11,4	15	6	34,1	7	23,1	0	0,8	7	22,3	22	21	0	22	13	37,7	23	44	31,4	1	30	53,7	+	2,6				
13.	15	2	2,1	15	33	16,2	31	14,1	0	3,5	31	10,6	22	45	0	22	13	49,4	23	44	40,5	1	30	51,1	+	0,8				
14.	15	4	52,7	15	16	54	12	1,3	0	1,3	12	0,0	22	26	0	22	14	0,0	23	44	50,3	1	30	50,3						
Mean Rate of the Watch's gaining																							1,2							

Observations at the Cape of Good Hope, Continued

Comparisons of the Transit Instrument with equal Altitudes

1772		Time of the O's Transit by the Clock C	Clock B before C	Time of the O's Transit by the Clock B	Time of appa- rent Noon by the equal Al- titudes	O tran- sits after Noon	Horizon- tal Error of the In- strument
		H ' "	" "	H ' "	H ' "	" "	" "
8 Nov	4	14 36 57,30	0 24,46	14 37 21,76	14 37 2,4	19,36	14 51
h —	7	14 44 27,31	1 3,96	14 45 31,27	14 45 13,8	1,447	14 0 $\frac{1}{4}$
		Altered the Instrument					
9 —	9	14 49 21,54	1 33,00	14 50 54,51	14 50 46,4	8 14	6 43
11 —	12	14 57 16,95	2 1,94	14 59 18,89	14 59 11,4	7,49	6 28
12 —	13	14 59 55,09	2 12,7	15 2 7,79	15 2 2,1	5,69	4 59
h —	14	15 2 35,85	2 23,5	15 4 59,35	15 4 52,7	6,65	5 55

Of the Dip of the Magnetic Needle

The dipping Needle which we took on shore at this place was so much out of balance, and so difficult to get in again, that, notwithstanding we both of us spent all the leisure time we had from other observations, we did not get it perfectly adjusted before we went away; and of course were not able to get any observations of that kind at this time

Observations made at Dusky Bay, in New Zealand.

1773.	Equal Altitudes. Times by Clock B.			Zenith Distance.	Time of apparent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
○ April 4.	59 58 4 3	22 22	6 31½	65 20 0		○'s U. L. } Easterly. ○'s L. L. }
— 5.		4 1 18	2 6	65 20 0	I 4 36,4	○'s L. L. } Westerly. ○'s U. L. }
	1 10	22 4 25: 8 26	7 38½	66 0 0		○'s U. L. } Easterly. ○'s L. L. }
— 6.					I 8 20,0	
	10 51	4 7 34		66 0 0		○'s L. L. } Westerly. ○'s U. L. }
— 10.	14 55	11 39½	8 26	66 0 0		
	45 47½	21 48 45½	51 46½	72 20 0		○'s U. L. }
	49 26	52 30				○'s L. L. }
	4 21	22 7 30		69 40 0		○'s U. L. } Easterly. ○'s L. L. }
	8 14	11 24				
	21 25	22 24 45	28 5	67 20 0		○'s U. L. }
— 11.	25 29	28 49	32 7		I 26 50,9	○'s L. L. }
	27 38	4 24 13	20 58	67 20 0		○'s U. L. }
	31 41	28 22	25 4			○'s L. L. } Westerly. ○'s U. L. }
	44 53	4 41 46		69 40 0		○'s U. L. }
	48 44	45 37½				○'s L. L. }
	3 36	5 0 35		72 20 0		○'s U. L. }
	7 19	4 19	1 21			○'s U. L. }
— 1	14 38:	23 18 26	22 15	65 20 0		○'s U. L. } Easterly. ○'s L. L. }
— 17.	19 16	23 9	27 4		I 49 17,5	
		4	10 58	65 20 0		○'s L. L. } Westerly. ○'s U. L. }
			16 47			○'s U. L. }
	35 52½	22 39 12	42 25½	71 0 0		○'s U. L. } Easterly. ○'s L. L. }
— 18.	39 55½	43 11½	46 27		I 53 4,75	
	5 37½	5 2 23½	59 9	71 0 0		○'s L. L. } Westerly. ○'s U. L. }
	9 40	6 24	3 11			
The Clock stopped a few seconds in winding up.						
		23 8 28		68 0 0		○'s U. L. } Easterly. ○'s L. L. }
— 19.	9 16½	12 53:			I 56 41,9	
		4 39 57:		68 0 0		○'s L. L. } Westerly. ○'s U. L. }
	37 43	22 40 57½	44 10 ½	72 20 0		○'s U. L. } Easterly. ○'s L. L. }
	41 41	44 55½	48 11			

Observations at Dusky Bay, Continued

1773	Equal Altitudes Times by Clock B			Zenith Distance	Time of ap parent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
April 19	11 7½	23 14 41	18 19	68 0 0	2 0 29,65	0's U L } Easterly
— 20	15 31	19 12	22 50½			0's L L }
	44 53	4 41 14	37 36½	68 0 0		0's L L } Easterly
	49 20	45 45	42 9			0's U L }
	18 44	5 15 29		72 20 0		0's L L } Easterly
	22 39	19 28	16 13			0's U L }
	38 45½	22 41 57	45 8	73 0 0		0's L L } Easterly
	42 40	45 54	49 9			0's U L }
	16 16	23 15 27	19 1½	68 40 0	2 4 1,8	0's L L } Easterly
		19 54	23 32			0's U L }
— 21	51 44½	4 48 7½	44 29½	68 40 0		0's L L } Easterly
		52 35	49 0			0's U L }
		5 22 8½	18 51½	73 0 0		0's L L } Easterly
	29 16	26 4½	22 54			0's U L }
— 24	26 15½	10 30 28½	34 47½	66 0 0	12 44 41,7	0's L L } Easterly
	31 27	35 48½	40 14½			0's U L }
— 25	57 24	14 53 1½	48 36½	66 0 0		By Mr Kendall's Watch
	2 36	58 21	54 4½			0's L L } Easterly
						0's U L }

In these last Observations the time was noted by the Watch made by Mr Kendall, the Clock having been taken down on the 22d

1773	Meridian Zenith Distances of the Sun and Stars				Barom	Thermom	Phenomena and Remarks
	I. lower Arch	P. lower Arch	G	S V			
April 5	51 37 10	55 0 8	+	11	29 96	54	0's U L
— 6	51 33 34	54 3 31	+	24	30 35	51	Procyon
— 11	54 24 28	58 0 4	+	20	30 13	54	0's L L
	51 33 10	54 3 31	+	21	30 18	50	Procyon
	0 52 54	0 3 24	—	24	30 19	50	γ Navis plane of the Quadrant West
	23 0 0	24 2 5	+	6	30 18	48½	β Navis above the Pole
— 15	55 50 56	59 2 9	+	26	29 99	53	0's L L
— 16	55 40 20	59 1 17	+	22	30 4	58	0's U L
	51 33 14	54 3 31	+	18	29 98	49	Procyon
	0 53 4	0 3 26	—	0	29 97	48½	γ Navis }
	8 5 16	8 2 17	+	20	29 96	48	Plane of the Quadrant East
— 18	22 59 38				29 96	47½	β — above the Pole
	56 22 14	60 0 17	+	20	29 95	58½	0's U L

Observations at Dusky Bay, Continued.

1773.	Meridinn Zenith Distances of the Sun and Stars.						Barom.	Thermom.	Phenomena and Remarks.	
	h	m	s	G	S	V.				
☉ April 18.	51	33	28	55	0	0	+ 10	29 90	52	Procyon.
	0	53	26	0	3	24	— 10	29 90	51½	γ Navis }
	8	5	50	8	2	16	— 9	29 90	50¾	δ — } Plane of the Quadrant West.
8 — 21.	22	59	38	24	2	4	+ 4	29 90	50½	β — above the Pole.
	8	5	40	8	2	15	0	29 65	46	δ Navis plane of the Quadrant West.
24 — 22.	22	59	18	24	2	3	+ 20	29 65	45	β — above the Pole.
	58	16	41	62	0	21	+ 19	29 67	53	☉'s L. L.
	0	52	45	0	3	25	0	29 66	45	γ Navis }
	8	5	21	8	2	17	+ 22	29 66	45	δ — } Plane of the Quadrant East.

* In making the above Observations, I estimated the seconds on both arches by the eye, on account of a defect in the tangent screw of the astronomical quadrant, or the apparatus which carries it, I could not discover which; the screw being liable, sometimes, to turn half way round without altering the vernier.

N. B. This is the same quadrant which Captain Cook and Mr. Green used at Otaheite, and possibly got injured when in the hands of the natives; if this was the case, it is highly probable that the disagreement in their meridian zenith distances (See p. 406, Philosophical Transactions, vol. LXI.) arose from this cause.

Lunar Observations for the Longitude of the Place.

1773.	Time by the Clock.	Distance ☉ and ☽'s Limbs.	Zenith Distance ☽'s L. L.	Double Alt. of ☉'s L. L.	Barom.	Thermom.	Longitude East.			
	H " "	° ' "	° ' "	° ' "			° ' "			
8 April 14.		+ 1 35½	+ 12	Corrections of the Quadrants.						
	0 7 42	78 1 45	54 10 0	}	29.99	52	166 27 45			
	9 37	78 0 45	54 35 45							
	13 10	77 57 30	55 3 0							
	16 7	77 57 0	55 31 45							
	18 31	77 56 0	55 57 0	}	29.99	52	166 24 45			
	21 2	77 56 0	56 21 0							
		+ 1 39½	+ 12	Corrections of the Quadrants.						
		+ 0 30½	+ 12	Ditto						
h — 17.										
	21 34 44	43 46 45	46 36 15	}	29.94	51½	166 3 18			
	38 30	45 0	19 45							
	40 12	44 30	9 30							
	41 44	44 30	3 0							
	44 0	43 0	45 51 0							

Observations at Dusky Bay, Continued

Lunar Observations

1773	Time by the Clock	Distance \odot and γ 's Limbs	Zenith Distance γ s L L	Double Alt of \odot s L L	Barom	Thermom	Longitude East	
	H	'	"	"	"	"	"	
15 April 17	21 48 21	43 41 45	45 30 0	}	29.94	51½	166 24 3	
	52 34	41 15	11 45					
	54 38	40 30	2 45					
	56 46	40 0	44 54 15					
		+ 0 36½	+ 12	Corrections of the Quadrants				
	0 32 25	42 53 0	46 36 0	60 47	29 95	58	166 4 10½	
	37 24	50 15	47 5 30	61 25				
	39 22	50 0	15 45	61 40				
	41 36	50 0	27 30	61 54				
	44 24	48 45	43 45	62 12	29 95	58	166 24 55½	
	55 23	46 0	48 51 0	63 29				
	58 6	45 0	49 7 0	63 47				
	1 0 20	43 45	26 0	64 5				
	3 16	43 0	41 0	64 14	29 95	58	166 24 55½	
	5 23	42 30	54 15	64 25				

The mean of all these Observations gives the Longitude of the Observatory $166^{\circ} 24' 46\frac{1}{2}''$ E
If the Observations of the γ 's distance from α Aquilæ be rejected, it will be $166^{\circ} 18' 9''$ East.

Observations at Dusky Bay, Continued.

Observations for finding the Variation of the Compaſs.

1773.	Zenith Diſt. o's U. L.	Azimuth of the o's center.	Double Altit. of the o's L. L.	Vari- ation Eaſt.
April 17.	Knight's Compaſs.	N. 17 35 E.	56 20	12 38 $\frac{1}{2}$
		17 25	56 29 $\frac{1}{2}$	
		17 30	56 36	
		17 20	56 45	
		17 0	56 52	
	Correction of the Quad.			+ 0 34
19.	80 30 $\frac{1}{2}$	N. 47 55 E.	By another Knight's Compaſs.	15 6 $\frac{1}{2}$
	79 40 $\frac{1}{2}$	46 25		
	79 18	45 30		
	78 54	45 25		
	78 40 $\frac{1}{2}$	47 0		
	70 36 $\frac{1}{2}$	N. 34 35 E.	Gregory's Compaſs.	13 25 $\frac{1}{2}$
	70 16	35 15		
	69 57 $\frac{1}{2}$	33 50		
	69 42 $\frac{1}{2}$	34 10		
	69 17 $\frac{1}{2}$	32 20		
21.	69 26 $\frac{1}{2}$	N. 60 10 W.	Gregory's Compaſs.	14 5 $\frac{1}{2}$
	69 46 $\frac{1}{2}$	60 45		
	70 0 $\frac{1}{2}$	60 30		
	70 14	60 50		
	70 27 $\frac{1}{2}$	61 0		
	70 43 $\frac{1}{2}$	64 0		
	+ 12" Correction of the Quad.			

* * Between every one of theſe Obſervations, except thoſe in the firſt ſet, I turned the compaſs quite round, ſometimes one way, and ſometimes the other; a precaution which, I am convinced from experience, is neceſſary to be taken by thoſe who would obtain the true quantity of the variation by an azimuth compaſs on ſhore.

Observations of the Dip of the Magnetic Needle.

		Face of the Instrument.		
		East.	West.	
		0	0	
3 April 13.	71 5	70 45	Means.	
	70 20	70 20		
	70 35	70 0		
	70 40	70 21 $\frac{1}{2}$		
	Changed the Poles.			
D — 19.	70 45	71 35	Means.	
	70 0	71 0		
	70 15	71 50		
	68 10	69 35		
	68 0	69 30		
	69 26	70 42	Means.	
	Altered the balancing			
	69 20	69 35		
	69 5	69 0		
	70 10	69 0		
3 — 20.	69 31 $\frac{1}{2}$	69 11 $\frac{1}{2}$	Means.	
	Changed the Poles.			
	70 10	70 5		
	69 35	69 5		
	69 0	68 55		
4 — 21.	70 10	70 30	Means.	
	72 5	71 10		
	72 5	71 35		
	70 39 $\frac{1}{2}$	70 13 $\frac{1}{2}$		
	70 4 $\frac{1}{2}$	70 7 $\frac{1}{2}$		
70 5 $\frac{1}{2}$		Mean of all the means.		
Mean of the two, or Dip of the Needle's S. End.				

The Needle was not readily balanced here; but it was done with much leſs trouble than at the Cape of Good Hope, owing, probably, to the change in the dip being leſs between that place and this than between that and England, or poſſibly from its having contracted leſs ruſt.

Observations at Dufky Bay, Continued

Observations on the Tides

1773	Apparent Time	Time by the Clock	Water below a certain Mark	Remarks	1773	Apparent Time	Time by the Clock	Water below a certain Mark	Remarks
	H	H	P I			H	H	I I	
♂ April 6		23 30	2 4	High Water	♂ April 10		4 5	4 5	
♂ — 7		2 44	6 11				1 33	4 8	
		2 49	7 1					10 0	Low Water Evening
	4 28 46	5 41	10 5	Low Water				10 11	High Water Morning
		8 33	7 1		♂ — 11			3 2	High Water Afternoon
		8 40	6 11					9 8	Low Water, Morning
		9 26	5 4				0 37	7 2	
		9 32	5 2				0 44	7 1	
		9 40	4 11				1 37	5 0	
	10 57 1	12 10	2 10	High Water			1 45	5 6	
		14 41	4 11				1 52	5 3	
		14 49	5 2		♂ — 12	2 42 52	4 13	3 6	High Water
		14 56	5 4				6 33	5 3	
		21 58	4 11				6 40	5 6	
		22 20	4 6				6 50	5 9	
		22 36	4 0				7 57	7 2	
		22 45	3 8					9 4	Low Water, Morning
♂ — 8	23 1 35	0 17	2 8	High Water	♂ — 13		3 58	4 5	
		1 54	3 8				4 4	4 8	
		1 59	4 0				4 10	4 0	
		2 17	4 6				5 32	3 8	High Water
		2 28	4 11				5 45	4 0	
			10 6	Low Water			6 2	4 3	
		10 58	4 4				6 14	4 5	
		11 11	3 11				6 13	6 7	
		11 26	3 6				21 20	6 10	
		11 37	3 3				21 42	7 1	
	11 27 10	12 45	2 6	High Water	♂ — 14	12 22 51	0 0	8 10	Low Water
		13 50	3 3				3 23	7 1	
		14 4	3 6				2 34	6 10	
		14 21	3 11				2 48	6 7	
		14 36	4 4				3 30	4 10	
	17 37 47	18 56	10 5	Low Water,			4 40	4 7	
		23 9	4 6				4 52	4 4	
		23 16	4 4				6 29	3 6	High Water
		23 22	4 2				8 4	4 4	
		23 32	3 11			4 50 11	8 19	4 7	
♂ — 9	23 53 15	1 12	2 8	High Water			8 29	4 10	
		2 55	3 11					3 11	High Water
		3 3	4 2				0 25	7 3	
		3 9	4 4				0 31	7 5	
		3 16	4 6				0 47	7 9	
			10 6	Low Water Evening			3 30	8 4	Low Water
			10 1	Low Water Morning	♂ — 16	0 44 20	4 10	7 9	
							4 28	7 5	
							4 10	7 3	
							0 7	4 1	
		23 46	4 8				20 25	5 10	
		23 57	4 5				21 9	3 7	High Water
		0 17	3 10				21 51	3 10	
♂ — 10	0 46 23	2 9	2 10	High Water			22 15	1 1	
		4 0	3 10						

This forenoon the tube got moved out of its place by some means or other; I replaced it and then made the following Observations,

Observations at Dusky Bay, Continued.

Observations on the Tides.

1773.	Apparent Time.	Time by the Clock.	Water below a certain Mark.	Remarks.	1773.	Apparent Time.	Time by the Clock.	Water below a certain Mark.	Remarks.
		H	F. I.			H	F. I.		
2 April 16.		23 45	5 4		2 April 20.	6 42	8 4		
		0 5	5 7			7 20	7 11		
		0 27	6 0			10 59	3 7		
		0 54	6 6			11 16	3 4		
5 — 17.	1 47 33	3 37 1	8 5	Low Water.		11 58 1	3 2	High Water.	
		6 20	6 6			12 33	3 4		
		6 42	6 0			13 5	3 7		
		7 13	5 7			22 19	4 4		
		7 31	5 4			22 46	4 0		
		7 50	4 9			22 57	3 10		
	8 4 48	9 55 1	3 7	High Water.		0 24 1	8 11	High Water.	
		11 56	4 9			1 55	3 10		
		12 20	5 4			2 5	4 0		
		12 39	5 7			2 27	4 4		
		13 12	6 0			4 40	7 4		
		20 16	4 9			4 52	7 6		
		20 32	4 5			6 35 1	8 5	Low Water.	
		20 47	4 2			8 19	7 6		
	20 14 40	22 7 1	3 7			8 30	7 4		
		23 25	4 2	High Water.		11 14	3 7		
		23 40	4 5			11 26	3 5		
		0 3	4 9			11 43	3 3		
18.			8 4 1	Low Water.		12 35	2 10	High Water.	
			3 6	High Water, Evening.		13 28	3 3		
		10 50	4 9			13 42	3 5		
		21 13	4 4			13 57	3 7		
		21 37	4 0				8 6	Low Water.	
	21 1 56	22 56 1	3 5	High Water.		23 54	3 6		
		0 14	4 0			0 27	3 2		
		0 40	4 4			23 57 2	1 5	2 10	High Water.
		1 4	4 9			1 45	3 2		
						2 14	2 6		
							8 7		Low Water.
						12 10	3 7		
						12 28	3 4		
						12 42	3 2		
						13 19 1	2 10	High Water.	
						13 56	3 1		
						14 10	3 4		
						14 30	3 7		
						17 26 36	19 37 1	8 7 1	Low Water, Morning.
						23 59	4 2		
						0 45	3 7		
						23 30 8	1 42	3 0	High Water.
							2 38	3 7	
							3 26	4 2	
								8 8	Low Water, Evening
								3 1	High Water.
								8 7	Low Water, Morning.
								3 7	
								12 1	
								12 26	
								3 4	
								3 2	High Water.
3 April 20.	3 49 24	5 50 1	8 6	Low Water.	3 April 24.	0 3 13	12 48	3 2	High Water.

Made a new rod to my instrument, the former having, by accident, got broke, and the distance from the bottom of the float to the first division being shorter by $1\frac{1}{2}$ inches than in the former; this will give all distances of the water from the mark greater by that quantity.

Observations at Dusky Bay, Continued

Observations on the Tides

1773	Apparent Time.	Time by the Clock	Water below a certain Mark		Remarks	1773	Apparent Time	Time by the Clock	Water below a certain Mark		Remarks
	H ' "	H ' "	F	I			H ' "	H ' "	F	I	
17 April 24		13 10	3	4	Low Water	17 April 25		11 45	4	6	High Water
		13 35	3	7				12 15	4	0	
		5 12	7	8				13 26	3	6	
		5 47	8	3			0 41 39	14 35	4	0	
	18 1 2	6 45	8	6				15 10	4	6	
		7 44	8	3					8	4	
		8 20	7	8					8	4	
17 April 25			8	5	Low Water						Low Water Morning

I made the preceding Observations by the help of a wooden tube, about 12 feet long and three inches square, which was placed upright in the water, and fixed firm to a large tree that hung over it. The tube had a small aperture at the bottom, whereby the water was admitted, so that the swell of the sea had little effect on the water in the tube, and the distance of the water from a mark on the top of the tube, was measured by a slender rod, divided into feet and inches, from the bottom upwards.

Observations at Dusky Bay, Continued.

The Latitude of Dusky Bay, deduced from Observations of the Sun and fixed Stars, when on the Meridian.

	Interior Arch.	Exterior Arch.
The error of the line of collimation, of the Quadrant, by a mean of the four Observations of γ Navis.	10,2 Add.	28,2 Subt.
By a mean of the four Observations of δ Navis.	13,2 Add.	32,2 Subt.
The mean of two gives	11,7 Add.	30,2 Subt.

1773.	Latitude by interior Arch.	Latitude by exterior Arch.	Declination.	1773.	Latitude by interior Arch.	Latitude by exterior Arch.	Declination.
By Observations of the Sun.				By Observations of γ Navis.			
9 April 5.	45 47 2	45 46 37	6 7 32	9 April 11.	45 48 0	45 47 52	46 40 31 $\frac{1}{2}$ South.
11.	45 48 12 $\frac{1}{2}$	45 47 38	8 21 47 $\frac{1}{2}$	16.	45 47 26 $\frac{1}{2}$	45 47 36	
15.	45 47 56	45 47 34	9 48 37 $\frac{1}{2}$	18.	45 47 18	45 47 38	
16.	45 47 56 $\frac{1}{2}$	45 47 33 $\frac{1}{2}$	10 9 57	22.	45 47 45 $\frac{1}{2}$	45 48 2	
18.	45 47 44	45 47 36 $\frac{1}{2}$	10 52 5 $\frac{1}{2}$		45 47 37 $\frac{1}{2}$	45 47 47	Mean of all by γ Navis.
22.	45 48 15 $\frac{1}{2}$	45 47 55	12 14 13 $\frac{1}{2}$				
	45 47 51	45 47 29	Mean of all by the Sun.	By Observations of δ Navis.			
By Observations of Procyon.				16.	45 47 35 $\frac{1}{2}$	45 47 38 $\frac{1}{2}$	53 52 58 $\frac{1}{2}$ South.
6.	45 47 25 $\frac{1}{2}$	45 46 52	5 47 30 $\frac{1}{2}$ N.	18.	45 47 24 $\frac{1}{2}$	45 47 32 $\frac{1}{2}$	
11.	45 47 2	45 46 49 $\frac{1}{2}$		21.	45 47 35	45 47 44	
16.	45 47 6	45 46 46 $\frac{1}{2}$		22.	45 47 30 $\frac{1}{2}$	45 47 35 $\frac{1}{2}$	
18.	45 47 20 $\frac{1}{2}$	45 47 54			45 47 31 $\frac{1}{2}$	45 47 37 $\frac{1}{2}$	Mean of all by δ Navis.
	45 47 13 $\frac{1}{2}$	45 46 53 $\frac{1}{2}$	Mean of all by Procyon.		45 47 37 $\frac{1}{2}$	45 47 47	Ditto, γ .
By Observations of β Navis.					45 47 9	45 47 26 $\frac{1}{2}$	Ditto, β .
11.	45 46 47	45 47 34	68 47 11 8.		45 47 20	45 47 37	Mean of all the Southern Observ.
16.	45 47 9 $\frac{1}{2}$				45 47 51	45 47 29	Mean of all by the Sun.
18.	45 47 10	45 47 33			45 47 13	45 46 53 $\frac{1}{2}$	Mean of all by Procyon.
21.	45 47 30	45 47 43 $\frac{1}{2}$			45 47 32 $\frac{1}{2}$	45 47 11 $\frac{1}{2}$	Mean of all by Northern Observ.
	45 47 9	45 47 26 $\frac{1}{2}$	Mean of all by β Navis.		45 47 26	45 47 37	Ditto, Southern Observations.
					45 47 29 $\frac{1}{2}$	45 47 24 $\frac{1}{2}$	Ditto of the two.

And by taking the Mean of the two Arches, the Latitude is $45^{\circ} 47' 26\frac{1}{2}''$ South.

*. Three double altitudes of the Sun's Limb, taken with Hadley's Quadrant from a quick-silver horizon, gave the Latitude of the Observatory $45^{\circ} 48' 44''$, $45^{\circ} 47' 30''$, and $45^{\circ} 47' 23''$; the mean of which is $45^{\circ} 47\frac{1}{2}'$ South.

Observations at Dusky Bay, Continued

Computations of the Clock's Rate of going

1773	Time of Noon by the Clock	Syderial Time of apparent Noon	Mean Time of apparent Noon	Clock fast of Syderial Time	Clock fast of mean Time	Clock gains on Syderial Time	Clock gains on mean Time
	H	H	H		H		
April 5	1 4 36 4	0 57 15 0	0 2 45 3	7 21 4	1 1 51 1		
6	1 8 20 0	1 0 53 7	0 2 27 5	7 26 3	1 5 52 5	0 49	4 1 4
11	1 26 50 9	1 19 10 7	0 1 20	7 40 2	1 25 48 9	0 28	3 59 3
17	1 49 17 9	1 41 17 2	23 59 29 5	8 0 7	1 49 48 4	0 34	3 59 9
18	1 53 4 7	1 44 59 7	23 59 15 4	8 5 0	1 53 49 3	0 43	4 0 9
19	1 56 41 9	1 48 42 6	23 59 1 7	7 59 3	1 57 40 2	Clock stopped	
20	2 0 29 6	1 52 25 8	23 58 48 5	8 3 8	2 1 41 1	0 45	4 0 9
21	2 4 17 8	1 56 9 5	23 58 35 7	8 8 3	2 5 42 1	0 45	4 1 0
Mean gain of the Clock						0 4 066	4 0 566

Computations of the Rate that Mr Kendall's Watch went at

1773	Time of apparent Noon by the Clock	Time by Clock when the Watch was com- pared	Time from Noon by the Clock	Time from Noon by the Watch	Time by the Watch when com- pared	Time of ap- parent Noon by the Watch	Mean Time of apparent Noon	Watch slow of mean Time	Watch slow on Time
	H	H			H	H	H	H	
April 6	1 8 20 0	1 30 0	21 40 0	3 6	13 8 47 2	12 47 10 8 5	0 2 27 5	11 15 16 6 5	3 77
11	1 26 50 0	1 43 0	16 9 1	2 7	13 2 2 1	12 46 14 1	0 1 19	11 14 47 8	3 36
17	1 49 17 5	1 59 0	9 42 5	1 6	12 55 12 2	12 43 31 8 5	23 59 29 5	11 13 57 6 3	3 25
18	1 53 4	2 28 0	34 55 3	5 8	13 20 12 2	12 43 23 0	23 59 15 4	11 13 52 4	3 80
19	1 56 41 5	2 1 0	4 18 1	0 7	12 49 31 2	12 45 14 1	23 59 1 7	11 13 47 6	3 10
20	2 0 29 6	2 33 0	32 30 4	5 4	13 17 34	12 45 9 0	23 58 48 5	11 13 39 5	3 70
21	2 4 17 8	2 20 0	15 42 2	1 6	13 0 42 1	12 45 29	23 58 35 7	11 13 32 8	3 38
By the Watch itself the Clock being taken down									
25	12 44 41 7	12 43 57 5	0 43 2	0 0 1	12 43 57 3	12 44 41 7	23 57 49 0	11 13 7 3	
The mean of all is									4 86

But if the first and last be taken only, the rate of the Watch will be gaining 6' 808 on mean time each day. If a mean be taken of all the Comparisons which can be formed out of the above, its gain on mean time will be 6", 726

Observations at Dusky Bay, Continued.

Computations of the Rate at which Mr. Arnold's Watch (No. 3.) went.

1773.	Time of apparent Noon by the Clock.	Time by Clock when the Watch was com- pared.	Time from Noon by the Clock.	Time from Noon by the Watch.	Time by the Watch when com- pared.	Time of apparent Noon by the Watch.	Mean Time of apparent Noon.	Watch flow of mean Time.	Watch gains on mean Time.
	H " "	H " "	" " "	" " "	H " "	H " "	H " "	H " "	" " "
April 6.	1 8 20.0	1 30 0	21 40.0	5.13	21 34.87	9 35 57.75	9 14 22.88	0 2 27.5	14 48 4.62
11.	1 26 50.9	1 43 0	16 9.1	3.78	16 5.32	9 21 18.50	9 5 19.18	0 1 1.9	14 55 48.72
17.	1 49 17.5	1 59 0	9 42.5	2.26	9 40.24	9 2 17.08	8 52 36.76	23 59 29.5	15 6 52.74
18.	1 53 4.7	2 28 0	34 55.3	8.0	34 47.30	9 25 33.75	8 50 46.45	23 59 15.4	15 8 28.95
19.	1 56 41.5	2 1 0	4 18.1	1.03	4 17.7	8 53 9.08	8 48 51.93	23 59 1.7	15 10 9.77
20.	2 0 29.6	2 33 0	32 30.4	7.47	32 22.93	9 19 18.50	8 46 55.57	23 58 48.5	15 11 52.93
21.	2 4 17.8	2 20 0	15 42.2	3.61	15 38.59	9 0 49.75	8 45 11.16	23 58 35.7	15 13 24.54
By Mr. Kendall's Watch, the Clock being taken down.									
25.	12 44 41.7	12 43 57.5	0 43.2	0.51	0 43.15	8 37 0.01	8 37 43.15	23 57 49.0	15 20 6.85
The mean of all is									99,467

But if the first and last day's Observations be taken only, the gain of this Watch, each day, on mean time, will come out 101",17. If a mean be taken of all the comparisons which can be formed out of the above Observations, its gain each day, on mean time, will be 101",051.

ASTRONOMICAL OBSERVATIONS

Observations at Queen Charlotte's Sound, in New Zealand, made by
Mr Baily

1773	Equal Altitudes Times by Clock, marked C			Zenith Distance	Transit over the Meridian	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
	" "	" "	" "			
April 19	51 34 54 49 16 50 20 18 43 1 36 37	21 54 25 21 57 44 22 19 53 22 23 22 22 36 11 22 39 49	57 19 0 35 22 57 — 39 22 —	75 25 71 23 68 55	0 0 0 0 0 0	<div> <div> O S U L O S L I O S U L O S L L O S U L O S L L </div> Easterly </div>
— 20	6 47 10 23 23 5 — — 51 49 2 5 5 25	5 5 7 14 5 20 3 5 23 30 5 5 22 5 0 22 8 23	— 4 4 17 58 20 28 42 45 — 7 55 11 21	68 55 71 23 75 25 74 20	0 0 0 0 0 0 0 0	<div> <div> O S L L O S U L O S L L O S U L O S L I O S U L O S U L O S L L </div> Westerly </div> <div> <div> O S U L O S L I O S U L O S L L </div> Easterly </div>
— 21	42 30 15 51	5 39 32 5 42 55	36 34 39 58	74 20	0	<div> O S L L O S U L </div> Westerly

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

1773.	Equal Altitudes. Times by Clock C.			Zenith Distance.	Transit over the Meridian.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
	"	H	"			
o April 25.	52 23 56 5	22 55 38½ 22 59 24½	58 56 2 44	69 40 0		o's U. L. { Easterly. o's L. L. {
o — 26.	14 36½ 18 19	5 11 17½ 5 15 3	7 55½ 11 45½			69 40 0
		5 24 37 5 28 15	21 26½	71 35 0		
	40 30	5 37 25½				73 30 0
	43 59½	5 40 55½	37 50	Put the Clock 12 minutes forward.		
	54 48	8 58 31½	2 16			68 2 0
	24 30	14 20 48	17 4	13 15 21.64		
	21 48½	9 24 23½	26 57½			73 27 0
	8 54½	17 6 20½	3 45½	70 20 0		
	42 53	22 45 58	49 3½			70 20 0
	46 24½	22 49 29½	52 35½	70 20 0		
	3 50	23 7 6	10 22			70 20 0
	7 32½	23 10 50½	14 9½	70 20 0	2 19 51.8	
o — 27.	31 43½	5 28 26	25 7			70 20 0
	35 26	5 32 10	28 53	73 27 0		
	52 51½	5 49 45½	46 3½			74 40 0
	56 21	5 53 17	50 11	74 40 0		
o — 28.		22 45 48½	48 55½			74 40 0
	46 13½	22 49 20½	52 26	72 20 0		
	58 12	23 1 24				72 20 0
	1 49½	23 5 2½		72 20 0		
o — 29.						72 20 0
	46 40	5 43 29		72 20 0		
	50 17	5 47 6				74 40 0
	2 14½	5 59 8½		74 40 0		
	5 43	6 2 4	59 34½			75 0 0
o — 30.	48 16½	22 51 22		75 0 0		
	51 46½	22 54 53	58 1½			73 0 0
	1 35	23 4 48	7 59½	73 0 0		
	5 12	23 8 26½	11 41			73 0 0
o May 1.				73 0 0		
	52 35	5 49 21½	46 7			75 0 0
	56 11	5 53 2	49 48½	75 0 0		
	6 0	6 2 53	59 46			75 0 0
	9 29	6 6 25½	3 19	75 0 0		

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Equal Altitudes Times by Clock C			Zenith Distance	Transit over the Meridian	Phenomena and Remarks					
	Lower Wire	Middle Wire	Upper Wire								
	H	H	H								
h May 1	55 3 58 37 11 21 15 3½	22 58 11 23 1 46½ 23 14 36 23 18 21½	1 20 4 57½ 17 52 21 40½	74 33 0 72 9 0	2 31 27,43	O s U L } O s L L } O s U L } O s L L } Easterly					
O — 2	51 6 3 50 7 22½	5 44 5 5 47 51 6 0 40 6 4 16	40 47½ 44 33½ 57 28 1 6				72 9 0 74 33 0	O s L L } O s U L } O s L L } O s U L } Westerly			
h — 3	52 2½ 40 6½	8 55 57 19 36 12	59 50 32 18½						50 40 0 74 40 0 72 0 0	14 16 4,37	α Centauri, East Ditto, West O s U L } O s L L } O s U L } O s L L } Easterly
h — 5	9 47½ 28 2½ 32 11½	23 13 0 23 16 39½ 23 31 44½ 23 35 36½	16 14 19 55 35 8 39 4								
h — 6	49 8½ 52 58½ 11 31 18 15 21 58½	5 45 43½ 5 49 36 6 4 39½ 6 8 19 23 21 31 23 25 16½	42 16½ 46 11½ 1 24½ 5 5½ 24 48 28 31	72 0 0 74 40 0 74 0 0	2 43 15,45	O s L L } O s U L } O s L L } O s U L } O s L L } Westerly					
h — 7	6 0 50½ 6	57 29½ 1 17½	74 0 0				O s L L } O s U L } O s L L } O s U L } Easterly				
h — 8	Put the Clock 20 minutes forward										
h — 17	4 52 9 42½	1 9 7½ 1 14 4½	13 29 18 36					68 32 0 68 32 0	3 29 48,33	O s U L } O s L L } O s L L } O s U L } Westerly	
h — 18	49 31½ 54 27½	5 45 10½ 5 50 7½	40 41½ 45 48	13 1 2,9	Spica Virginis, East Ditto West O s U L } O s L L } Easterly						
h — 19	10 33 11 33½	9 53 14 16 8 52 1 44 8	56 57 6 9			3 34 48,02	O s L L } O s U L } O s L L } O s U L } Westerly				
h — 20	44 52 24 28	1 5 25 9									

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

1773.	Transits of the Sun, Moon, and Stars, over the Meridian.					Phenomena and Remarks.
	Time by the Clock C.					
	First Wire.	Second Wire.	Middle Wire.	Fourth Wire.	Fifth Wire.	
			H			
3 April 20.	Having fixed up the Transit Instrument, I levelled the axis, adjusted the line of collimation, and directed it, by means of the horizontal adjusting screw, to a very good mark on an Island to the Northward.					
8 — 21.	51 53	52 35— 54 46½	1 53 18½ 1 55 29½	54 1½ 56 12—	— 56 54½	☉'s First L. ☉'s Second L.
	These Observations being compared with the time of noon deduced from equal altitudes, shew that the Instrument was 10", 67 in time West of the true meridian.					
8 — 23.	Moved the Instrument very near the true meridian, where it accidentally cut two very good marks, one about a mile and quarter to the Northward, and the other about 4½ miles to the Southward. By these two marks the Instrument was generally examined before every Observation in the day-time.					
6 — 24.	58 28½	59 10½ 1 21½	1 59 54½ 2 2 5½	0 37 2 48½	— 3 30½	☉'s 1st L. } By these the Instrument is 0", 6. ☉'s 2d L. } East of the true meridian.
☉ — 25.	0 44½	1 26½	2 2 10— 2 4 22—	2 55 5 4½	— 5 47½	☉'s 1st L. } These make the Instrument 1", 15. ☉'s 2d L. } East of the true meridian.
☾ — 26.	3 51½	3 43½ 5 56— 15 21½ 32 42½	2 4 27½ 2 6 39 5 16 7+ 5 33 24½ 7 21 49—	5 10½ 7 22— 6 52½ 34 7	— 8 4½	☉'s 1st L. } Instrument 1", 32 East of the me ☉'s 2d L. } ridian. ☉'s 1st Limb. α Orionis. Pollux.
	Put the Clock 12 Minutes forward.					
	38 12½	57 49½ 38 5½ 14 51½	9 58 32— 11 12 16 22—	59 16— 40 21½ 17 50½	— 41 5½ 16 45½	Regulus. β Leonis. Instrument 0", 54 East. α Crucis. Spica Virginis. Instrument 0", 44 East of Merid.
	13 57½	14 30— 29 52+ 5 52+ 6 36	13 15 22½ 13 31 12½ 14 7 21½ 14 26 27½	16 5½ 32 33½ 8 6+ —	— 8 50½	α Eridani: below the Pole. Arcturus. α Centauri.
8 — 27.	17 20—	29 11+ 18 1½ 20 13½	1 30 31 2 18 45½ 2 20 57½ 4 24 2½ 5 4 44— 5 43 56½ 6 19 16+ 6 36 9 7 20 57½ 7 28 22	31 51½ 19 28½ 21 40½ — 5 26 44 38½ 20 2 — 29 4	— — 22 23 — 6 7½ 45 20½ 20 46½ —	α Eridani: above the Pole. ☉'s 1st Limb. ☉'s 2d Limb. Aldebaran. Rigel. α Orionis. ☉'s 1st Limb: very good. Syrus. Castor. Procyon.
	3 20 42 32½ 17 47—	4 1+ 43 14— 13 31½	5 4 44— 5 43 56½ 6 19 16+ 6 36 9 7 20 57½ 7 28 22	5 26 44 38½ 20 2 — — —	6 7½ 45 20½ 20 46½ — — —	

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Transits of the Sun, Moon, and Stars, over the Meridian Times by the Clock C					Phenomena and Remarks
	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	
	"	"	H "	"	"	
8 April 27	—	31 32½	7 32 20½	33 8½	—	Pollux
	—	—	9 11 33½	—	—	β Navis above the Pole
	—	—	9 17 17+	—	—	α Hydræ
	55 39½	56 21+	9 56 59½	57 48—	58 30—	Regulus
	36 44+	37 27—	11 38 11—	38 54½	39 37½	β Leonis
	—	27 41½	1 29 2½	30 22½	—	α Eridani above the Pole
8 — 28	19 37	20 19+	2 21 3—	21 46+	—	○'s 1st L.
	—	22 31—	2 23 5	23 58½	24 41½	○'s 2d L.
	9 30½	10 14½	7 11 0	11 45½	12 30	β's 1st L.
24 — 29	21 55½	22 37½	2 23 21½	—	—	○'s 1st L.
	—	—	2 25 33½	26 17—	26 59½	○'s 2d L.
	—	16 47—	6 16 57½	18 6½	—	Canopus above the Pole
	31 44½	32 31½	6 33 11—	33 54½	34 38—	Syrus
	—	17 14½	7 18 4½	18 54½	—	Castor
	—	24 41½	7 25 24	26 6—	—	Procyon
	—	—	7 29 23	—	—	Pollux
	1 38—	2 21+	8 3 1	3 51—	4 35½	β's 1st L.
	—	6 35	9 8 30+	10 25—	—	β Navis above the Pole
	—	—	9 14 19+	—	—	α Hydræ
	—	—	9 54 6½	—	—	Regulus
	33 46½	34 29½	11 35 13+	35 56½	36 39½	β Leonis
	—	10 25½	12 11 55+	13 14½	—	α Crucis
	—	15 13—	12 16 28+	17 42½	—	γ —
	—	31 16—	12 32 22+	33 42	—	β —
	—	25 26½	13 26 46½	28 7½	—	α Eridani below the Pole
	—	20 36—	14 22 0	23 24+	—	α Centauri
	—	15 3—	18 16 11½	17 21½	—	Canopus below the Pole
8 — 30	—	—	21 6 16½	—	—	β Navis below the Pole
	—	—	1 24 35½	—	—	α Eridani above the Pole
6 May 1	26 34	27 16+	2 28 0	—	—	○'s 1st L.
	—	—	2 30 12½	30 56—	31 38½	○'s 2d L.
	—	—	6 30 14—	—	—	Syrus
	—	25 38—	7 26 26+	27 14—	—	Pollux
	—	3 37½	9 5 34½	7 32	—	β Navis above the Pole
	—	47 34½	9 48 17½	49 2—	—	β's 1st L. and good.
	—	50 25½	9 51 9+	51 52½	—	Regulus
	30 49	31 31½	11	32 59½	33 42	β Leonis
	—	—	1 23 6½	—	—	α Eridani above the Pole
0 — 2	28 53½	29 35½	2 30 20	—	—	○'s 1st L.
	—	—	2 32 32½	33 15½	33 58½	○'s 2d L.
	—	35 49½	5 36 32½	37 15—	—	α Orionis

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

		Transits of the Sun, Moon, and Stars, over the Meridian.					Phenomena and Remarks.
		Time by the Clock C.					
1773.		First Wire.	Second Wire.	Middle Wire.	Fourth Wire.	Fifth Wire.	
				H			
○ May 2.			2 10+	9 4 7+	6 3-		β Navis: above the Pole.
			9 10	9 9 53-	10 35½		α Hydæ.
	48 15½			9	50 23½	51 6-	Regulus.
		41 7½		10 41 51	42 33½		δ's 1st Limb: very good.
3.	31 14	31 57-		2 32 41			☉'s 1st L.
				2 34 53½	35 37+	36 20	☉'s 2d L.
		18 46½		7 19 29½	20 11+		Procyon.
				7 23 28+			Pollux.
				9 2 37			β Navis: above the Pole.
	7 0+	7 41½		9 8 24+	9 6½	9 48½	α Hydæ.
	46 46	47 28+		9 48 11½	48 55-	49 37+	Regulus.
				11 29 18½			β Leonis.
		35 53½		11 36 37+	37 20-		δ's 1st Limb: good.
	18 14-	19 33½		13 20 54+	22 14½	23 22+	α Eridani: below the Pole.
	55 32-	56 15½		14 57 0+	57 45½	58 29-	Arcturus.
		14 40-		14 16 4+	17 28+		α Centauri. Instrument 0°, 25 East.
		9 8-		18 10 18	11 28		Canopus: below the Pole.
		59 58		21 1 53	3 51-		β Navis, Ditto.
				21 6 20			α Navis, Ditto.
4.	33 34-	34 17		2 35 1½			☉'s 1st L.
				2 37 14½	37 68	38 41	☉'s 2d L.
				7 18 0+			Procyon.
		11 11-		7 21 59½	22 47-		Pollux.
		27 46		8 28 58	30 9½		β } Navis: above the Pole.
		59 11½		9 1 9	3 5-		α Hydæ.
	5 31+	6 13-		9 6 56-	7 38-	8 20-	Regulus.
		46 0-		9 46 43	47 26½		☉'s 1st L.
5.		36 39-		2 37 23			☉'s 2d L.
				2 39 36-	40 19½		α Hydæ.
	4 2½	4 44+		9 5 27+	6 9½	6 51½	Spica Virginis.
	0 38½	1 20-		13 2 3-	2 46-	3 27+	α Eridani: below the Pole.
				13 17 55			δ's 1st Limb: good.
	30 27-	31 19+		13 31 53	32 37	33 19½	Arcturus.
		53 17½		13 54 2½	54 47½		α Centauri: above the Pole.
		11 43-		14 13 7	14 31+		α Libræ.
	25 37½	26 19½		14 27 3½	27 47+	28 30-	α Eridani: above the Pole.
		15 51-		1 17 11½	18 31½		α Centauri: below the Pole.
				2 12 22			☉'s 1st L.
6.	38 18½	39 0½		2 39 45+			☉'s 2d L.
				2 41 58½	42 43+	43 25+	α Orionis.
	29 14-	29 55		5 30 38-		32 1½	

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Transit of the Sun, Moon, and Stars, over the Meridian Times by the Clock C					Phenomena and Remarks.
	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	
	"	"	H	"	"	
4 May 6			6 6 37			Canopus above the Pole
		14 20+	7 15 3	15 45		Procyon
		18 14	7	19 49 ⁺		Pollux
			8 6 25 ⁺			β } Navis above the Pole
		56 13 ⁺	8 58 11+	0 7		α } Hydræ
		3 15	9	4 40		β Leonis
	18 25	19 8+	11 19 51 ⁺	20 35	21 18	Spica Virginis.
		59 51+	13 0 34	1 16 ⁺		α Eridani below the Pole.
		15 6	13 16 26	17 47		Arcturus
	51 5	51 49	13 52 34	53 18+	54 2 ⁺	β's 1st Limb good
	31 30 ⁺	32 13 ⁺	14 32 58 ⁺	33 42 ⁺	34 21	β } Navis below the Pole
		3 19 ⁺	20 4 40	6 2		α Eridani above the Pole
		55 29+	20 57 25+	59 22+		α Eridani above the Pole
		14 22	1 15 43	17 2		α's 1st L
8 — 7	40 40	41 23	2 42 7			α's 2d L
			2 44 20 ⁺	45 4 ⁺	45 48	α Eridani below the Pole
			13 14 57			Arcturus.
	49 36		13 51 4 ⁺	51 49 ⁺	52 33	α Cor Bor
	9 12	9 58	15 10 45 ⁺	11 33+	12 19 ⁺	α Serpentis
	17 23	18 4	15 18 46 ⁺	19 29	20 10 ⁺	β's 2d L
	36 54 ⁺	37 38 ⁺	15 38 23 ⁺	39 8 ⁺	39 52 ⁺	α Eridani above the Pole
		12 52 ⁺	1 14 13	15 33+		α's 1st L
6 — 8		43 46	2 44 30			α's 2d L
			2 46 44	47 27 ⁺		β Navis above the Pole
			8 23 02			Spica Virginis
			12 57 34 ⁺			α Eridani below the Pole
		12 8	13 13 27 ⁺	14 49		Arcturus.
	48 6	48 50	13 49 34 ⁺	50 19 ⁺	51 4	α Libræ.
	21 9 ⁺	21 51 ⁺	14 22 36	23 19 ⁺	24 2	α Cor Bor
	7 42 ⁺	8 29	15 9 16+	10 3 ⁺	10 49 ⁺	α Serpentis.
	15 53		15 27 17	17 59	18 41+	Antares
	58 7 ⁺	58 53	15 49 40+		1 12 ⁺	β's 2d Limb good
		41 25 ⁺	16 42 11 ⁺	42 56		α Ophiuchi.
			17 8 28			
	Put the Clock 20 Minutes forward					
0 — 9	5 26	6 9	3 6 54			α's 1st L
			3 9 7	9 50 ⁺	10 34	α's 2d L.
	18 6		9 19 30	20 12	20 54	α Hydræ
		58 39 ⁺	9 59 17	0 9 ⁺		Regulus
	14 41 ⁺	15 23 ⁺	13 16 6 ⁺		17 31	Spica Virginis.
			13 31 58			α Eridani below the Pole

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

1773.	Transits of the Sun, Moon, and Stars, over the Meridian. Time by the Clock C.					Phenomena and Remarks.
	First Wire.	Second Wire.	Middle Wire.	Fourth Wire.	Fifth Wire.	
	"	"	H "	" "	" "	
☉ May 9.	16 13 $\frac{1}{2}$	7 21	14 8 6 $\frac{1}{2}$	8 51		Arcturus.
	34 24+	26 59 $\frac{1}{2}$	15 27 47 $\frac{1}{2}$	28 35	29 21 $\frac{1}{2}$	α Cor. Bor.
			15 36 48+	36 30 $\frac{1}{2}$	37 12 $\frac{1}{2}$	α Serpentis.
			16 18 12			Antares.
	25 33 $\frac{1}{2}$	26 16	17 26 59 $\frac{1}{2}$	27 43	28 25+	α Ophiuchi.
	3 45 $\frac{1}{2}$	4 29 $\frac{1}{2}$	18 5 15+	6 0 $\frac{1}{2}$	6 45+	☉'s 2d Limb: good.
☽ — 10.	7 50	8 23	1 31 14+			α Eridani: above the Pole.
			11 31 $\frac{1}{2}$	12 16	12 59 $\frac{1}{2}$	☉'s 1st Limb.
			7 29 7			☉'s 2d Limb.
			7 33 6	33 53+		Procyon.
		31 17 $\frac{1}{2}$	8 40 4 $\frac{1}{2}$	41 16		Pollux.
		39 53	9 12 9 $\frac{1}{2}$			δ Navis: above the Pole.
			9 18 2 $\frac{1}{2}$	18 44 $\frac{1}{2}$		β Navis: above the Pole.
	4 36	5 19 $\frac{1}{2}$	19 6 5 $\frac{1}{2}$	65 0 $\frac{1}{2}$	7 34 $\frac{1}{2}$	α Hydra.
♄ — 11.		28 27	1 29 47 $\frac{1}{2}$	31 7		☉'s 2d Limb: good.
			5 43 12 $\frac{1}{2}$			α Eridani.
			6 25 34 $\frac{1}{2}$	26 8 $\frac{1}{2}$		α Orionis.
	26 14	26 55 $\frac{1}{2}$	7 27 37 $\frac{1}{2}$	28 20	29 1 $\frac{1}{2}$	Syrus.
		30 48 $\frac{1}{2}$	7 31 36 $\frac{1}{2}$	32 24 $\frac{1}{2}$		Procyon.
	54 54 $\frac{1}{2}$	55 36 $\frac{1}{2}$	9	57 3 $\frac{1}{2}$	57 45 $\frac{1}{2}$	Pollux.
	13 41 $\frac{1}{2}$	14 27 $\frac{1}{2}$	16 15 14 $\frac{1}{2}$	16 1 $\frac{1}{2}$	16 46 $\frac{1}{2}$	Regulus.
	22 36 $\frac{1}{2}$	23 18 $\frac{1}{2}$	17 24 2 $\frac{1}{2}$	24 44 $\frac{1}{2}$	25 27 $\frac{1}{2}$	Antares.
		17 16 $\frac{1}{2}$	18 18 25 $\frac{1}{2}$	19 35 $\frac{1}{2}$		α Ophiuchi.
	37 47	38 28 $\frac{1}{2}$	19 39 11 $\frac{1}{2}$	39 53 $\frac{1}{2}$	40 35 $\frac{1}{2}$	Canopus: below the Pole.
	42 14 $\frac{1}{2}$	42 55 $\frac{1}{2}$	19 43 38 $\frac{1}{2}$	44 20 $\frac{1}{2}$	45 1 $\frac{1}{2}$	α } Aquilæ.
	2 13 $\frac{1}{2}$	2 56 $\frac{1}{2}$	20 3 42 $\frac{1}{2}$	4 26 $\frac{1}{2}$	5 10 $\frac{1}{2}$	β } ☉'s 2d Limb: good.
		6 56 $\frac{1}{2}$	20 7 41 $\frac{1}{2}$	8 25		{ About 25' S. of ☉'s center, and about the 4th Mag. Two small *'s nearly in the same parallel with the ☉. } The first of these is probably α, and the second γ Capricorni; I cannot find the third in any Catalogue. W.W.
			20 10 10			
			20 11 59 $\frac{1}{2}$			
			20 17 14 $\frac{1}{2}$			
		36 37 $\frac{1}{2}$	20 37 49 $\frac{1}{2}$	39 0 $\frac{1}{2}$		δ } Navis: below the Pole.
	8 3 $\frac{1}{2}$	21 9 59 $\frac{1}{2}$	21 9 59 $\frac{1}{2}$	11 56 $\frac{1}{2}$		β } ☉'s First L.
☽ — 12.	12 40 $\frac{1}{2}$	13 23 $\frac{1}{2}$	3 14 8			☉'s Second L.
			16 22 $\frac{1}{2}$	17 6 $\frac{1}{2}$	17 50 $\frac{1}{2}$	Syrus.
	13 28		6 34 55 $\frac{1}{2}$	26 50 $\frac{1}{2}$	36 22 $\frac{1}{2}$	Procyon.
		25 25 $\frac{1}{2}$	7 26 8 $\frac{1}{2}$			Pollux.
			7 30 6 $\frac{1}{2}$			δ Navis: above the Pole.
		15 9 $\frac{1}{2}$	8 16 31 $\frac{1}{2}$	17 52 $\frac{1}{2}$		

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Transits of the Sun, Moon, and Stars, over the Meridian Times by the Clock C					Phenomena and Remarks
	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	
			H			
May 12		35 54	8 37 6	38 17 $\frac{1}{2}$		δ } Navis above the Pole
			9 9 17 $\frac{1}{2}$			β } Hydraz,
		14 20 $\frac{1}{2}$	9 15 3 $\frac{1}{2}$	15 45 $\frac{1}{2}$		Regulus
		54 6 $\frac{1}{2}$	9 54 50 $\frac{1}{2}$	55 33 $\frac{1}{2}$		α Ophiuchi
			17 22 32 $\frac{1}{2}$			Canopus below the Pole.
		15 47	18 16 55 $\frac{1}{2}$	18 5		
		32 44 $\frac{1}{2}$	19 33 27 $\frac{1}{2}$	34 10 $\frac{1}{2}$		γ } Aquilæ
	36 17 $\frac{1}{2}$	36 59 $\frac{1}{2}$	19 37 42 $\frac{1}{2}$	38 24 $\frac{1}{2}$	39 6 $\frac{1}{2}$	α } Aquilæ
		41 26 $\frac{1}{2}$	19 42 8 $\frac{1}{2}$	42 51 $\frac{1}{2}$		β } Aquarii
		54 23 $\frac{1}{2}$	20 55 6 $\frac{1}{2}$	56 49 $\frac{3}{4}$'s 2d Limb good.
	56 23	57 6 $\frac{1}{2}$	20 57 50 $\frac{1}{2}$	58 34	59 17	β } Navis below the Pole,
			21 8 29			γ } Aquarii
			21 39 15 $\frac{1}{2}$			O's 1st L.
		51 15	21 51 57 $\frac{1}{2}$	52 39 $\frac{1}{2}$		O's 2d L.
13	15 5 $\frac{1}{2}$	15 48 $\frac{1}{2}$	3 16 33 $\frac{1}{2}$		20 15 $\frac{1}{2}$	α Orionis
			18 47 $\frac{1}{2}$	19 32 $\frac{1}{2}$		Canopus.
		39 31	5 40 13 $\frac{1}{2}$	40 56		
		15 2 $\frac{1}{2}$	6 16 12 $\frac{1}{2}$	17 21 $\frac{1}{2}$		
			8 15 1 $\frac{1}{2}$			
			8 35 35 $\frac{1}{2}$			
			8 51 48 $\frac{1}{2}$			
			9 7 46			δ } Navis above the Pole
		11 1 $\frac{1}{2}$	9 12 14	13 25 $\frac{3}{4}$		λ } Navis above the Pole
		36 56 $\frac{1}{2}$	9 38 32 $\frac{1}{2}$	40 8 $\frac{3}{4}$		μ } Navis above the Pole
	51 56	52 37 $\frac{1}{2}$	9 53 21 $\frac{1}{2}$	54 4 $\frac{1}{2}$	54 47 $\frac{1}{2}$	Regulus
			10 31 59 $\frac{3}{4}$			
			10 33 23 $\frac{1}{4}$			
14		32 55 $\frac{1}{2}$	8 34 7 $\frac{1}{2}$	35 18		δ } Navis above the Pole.
			9 6 18			β } Navis above the Pole.
			9 10 45			α } Navis above the Pole
			9 37 3 $\frac{1}{2}$			Regulus
		51 8 $\frac{1}{2}$	9 51 52 $\frac{3}{4}$	52 35 $\frac{1}{2}$		
			10 30 30 $\frac{1}{2}$			
			10 31 53 $\frac{3}{4}$			
			10 32 39 $\frac{3}{4}$			
		43 33 $\frac{1}{2}$	10 44 17 $\frac{3}{4}$	45 1 $\frac{1}{2}$		α Crateris

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

1773.	Transits of the Sun, Moon, and Stars, over the Meridian.					Phenomena and Remarks.
	Times by the Clock C.					
	First Wire.	Second Wire.	Middle Wire.	Fourth Wire.	Fifth Wire.	
May 14.		31 59 $\frac{1}{2}$	20 33 10	34 21 $\frac{1}{2}$		δ } Navis : below the Pole *.
15.		20 46	21 9 48 $\frac{1}{2}$	22 10 $\frac{1}{2}$		Procyon.
	8 59 $\frac{1}{2}$	9 40 $\frac{1}{2}$	7 21 28 $\frac{1}{2}$	11 5 $\frac{1}{2}$	11 47 $\frac{1}{2}$	δ Navis : above the Pole.
		38 45 $\frac{1}{2}$	8 32 26 $\frac{1}{2}$	36 58 $\frac{1}{2}$		α Hydrae.
			9 10 23 $\frac{1}{2}$			ν Navis : above the Pole.
			9 35 22 $\frac{1}{2}$			Regulus.
			9 50 10 $\frac{1}{2}$			Spica Virginis.
			13 4 1 $\frac{1}{2}$			Arcturus.
			13 56 1			α Aquilae.
	28 39 $\frac{1}{2}$	29 20 $\frac{3}{4}$	19 36 4 $\frac{1}{2}$	30 46 $\frac{1}{2}$	31 28	Pomahaut.
		53 41 $\frac{1}{2}$	22 35 13 $\frac{1}{2}$	55 8 $\frac{1}{2}$		δ 's 2d L.
			0 54 24 $\frac{1}{2}$			α Eridani : above the Pole.
			1 19 14 $\frac{1}{2}$			\odot 's 1st L.
	27 11	27 54 $\frac{1}{2}$	3 28 39 $\frac{1}{2}$	29 24 $\frac{1}{2}$		\odot 's 2d L.
		30 9 $\frac{1}{2}$	3 30 55	31 39 $\frac{1}{2}$	32 28 $\frac{1}{2}$	α Hydrae.
		5 13 $\frac{1}{2}$	9 5 56	6 38 $\frac{1}{2}$		Regulus.
	44 17 $\frac{1}{2}$	44 59 $\frac{1}{2}$	9 45 43 $\frac{1}{2}$	46 26 $\frac{1}{2}$	47 8 $\frac{1}{2}$	β Leonis.
	25 23	26 5 $\frac{1}{2}$	11 26 49 $\frac{1}{2}$	27 33	28 16 $\frac{1}{2}$	γ } Crucis.
			12 8 4 $\frac{1}{2}$			β } Spica Virginis.
		22 36 $\frac{1}{2}$	12 28 58	25 19 $\frac{1}{2}$		Arcturus.
		1 49 $\frac{1}{2}$	13 2 32 $\frac{1}{2}$	8 14 $\frac{1}{2}$	9 56 $\frac{1}{2}$	α Centauri.
			13 54 31 $\frac{1}{2}$			θ Navis.
			14 13 36	14 59 $\frac{1}{2}$		Pomahaut.
		22 2 $\frac{1}{2}$	20 24 35 $\frac{1}{2}$	25 9 $\frac{1}{2}$		α Eridani : below the Pole.
	32 6 $\frac{1}{2}$	32 54	20 38 43 $\frac{1}{2}$	34 32 $\frac{1}{2}$	35 20 $\frac{1}{2}$	\odot 's 1st L.
		16 20 $\frac{1}{2}$	1 17 41 $\frac{1}{2}$	19 1		\odot 's 2d L.
	29 39	30 22 $\frac{1}{2}$	3 31 8	31 52 $\frac{1}{2}$		Syrius.
		32 38 $\frac{1}{2}$	3 33 28 $\frac{1}{2}$	34 8 $\frac{1}{2}$	34 51 $\frac{1}{2}$	Procyon.
	21 51 $\frac{1}{2}$	22 33 $\frac{1}{2}$	5	24 1 $\frac{1}{2}$	24 44 $\frac{1}{2}$	δ } Navis.
			7 15 30 $\frac{1}{2}$			β } α Hydrae.
		25 16	8 26 28	27 39 $\frac{1}{2}$		Regulus.
			8 58 38 $\frac{1}{2}$			θ Navis.
		3 42 $\frac{1}{2}$	9 4 25 $\frac{1}{2}$	5 7 $\frac{1}{2}$		β Leonis.
			9 44 13 $\frac{1}{2}$			Spica Virginis.
		21 17 $\frac{1}{2}$	10 22 51 $\frac{1}{2}$	24 24		α Eridani.
	23 53 $\frac{1}{2}$	24 35 $\frac{1}{2}$	11 25 19 $\frac{1}{2}$		26 46 $\frac{1}{2}$	
			13 1 2 $\frac{1}{2}$			
		15 36 $\frac{1}{2}$	13 16 55	18 16		

* Mr. Bayley remarks that the

* Mr. Bayley remarks that the Clock appears to have lost 12" more than its usual rate between the transits of Regulus and δ Navis, which is obvious enough; and it is farther manifest, on examining the Observations, that it happened between the transits of α Crateris and δ Navis: Mr. Bayley farther remarks, that he is certain the Clock was not disturbed by any means whatever, as he was in the Observatory during the whole interval, and no other person but him- self all that time.

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued.

The Error of the Transit Instrument deduced from Observations of Circum-polar Stars

1773	Transit above the Pole	Transit below the Pole	Interval by the Clock between the Observa- tions.	Clock loses be- tween the Ob- serva- tions	Error of Instru- ment where the * passed	Phenomena and Remarks
	H	H	H			
April 26	25 30 31,22	13 31 12,69	11 59 18,23	44,56	1,46	* Eridani
— 29	6 16 57,37	18 16 11,81	11 59 14,44	44,64	0,46	Canopus
May 1	33 5 34,56	21 6 16,50	11 59 18,06	44,07	1,06	β Navis
— 3	9 2 37	21 1 53,69	11 59 16,69	44,29	0,49	β Navis
— 4	33 1 8,53	21 1 53,69	11 59 14,84	44,37	0,39	β Navis
— 5	25 17 11,38	13 17 55	11 59 16,38	44,83	0,60	* Eridani
	14 13 7	26 12 22	11 59 15,0	44,83	0,09	* Centauri
— 6	8 5 25,5	20 4 40,19	11 59 14,69	44,82	0,25	β } Navis.
	8 58 10,79	20 57 25,38	11 59 14,59	44,82	0,30	β } Navis.
	25 15 42,38	13 16 26,06	11 59 16,32	44,82	0,57	β } Navis.
— 7	1 15 42,38	13 14 57,0	11 59 14,62	44,81	0,29	β } Navis.
	25 14 12,94	13 14 57,0	11 59 15,94	44,81	0,38	β } Navis.
— 8	1 14 12,94	13 13 28,0	11 59 15,06	44,32	0,32	β } Navis.
— 9	25 31 44,25	13 31 58,0	11 59 16,25	44,56	0,40	* Eridani
— 12	33 16 31,25	20 17 14,75	11 59 16,50	44,74	0,62	* Navis.
	33 37 05,88	20 37 49,44	11 59 16,44	44,74	0,59	β } Navis
	33 9 17,25	21 9 59,81	11 59 17,44	44,74	1,09	β } Navis
	9 9 17,25	21 8 29,0	11 59 11,75	44,74	1,75	β Navis
— 13	33 7 46,0	21 8 29,0	11 59 17,0	44,55	0,78	β } Navis
	33 38 32,75	21 39 15,50	11 59 17,25	44,55	0,90	β } Navis
— 18	1 17 40,97	13 16 55,56	11 59 14,59	44,90	0,26	* Eridani

The mean of all the Observations of Achernar is $0^{\circ},536$, of β Navis $0^{\circ},587$, of γ Navis $0^{\circ},453$, Canopus gave $0^{\circ},46$, α Centauri $0^{\circ},09$, δ Navis $0^{\circ},59$, and ν Navis $0^{\circ},9$; and hence the angle under which the instrument cut the meridian at the zenith will be $6^{\circ}\frac{1}{2}$, $4^{\circ}\frac{1}{2}$, $5^{\circ}\frac{1}{2}$, 7° , 1° , $8^{\circ}\frac{1}{2}$, and $8^{\circ}\frac{1}{2}$ respectively; the mean of all which is $6'$ of a degree, and so much the Northern semi circle of the vertical, wherein the instrument moved was to the Eastward of the true meridian Mr Bayley remarks that the instrument was carefully kept to two marks, one about a mile and quarter off to the Northward, and the other to the Southward, at about the distance of four miles and an half, from which it seldom deviated the breadth of one of the wires.

ASTRONOMICAL OBSERVATIONS.

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Meridian Zenith Distances of the Sun, Moon, and Stars, for determining the Latitude.

1773.	Zenith Distances.		Exterior Arch reduced.	Barom.	Therm.		Latitude deduced.	Phenomena.
	Interior Arch.	Exterior Arch.			In.	Out.		
	0	G S V	0				0	
4 April 29.	55 50 0							
	55 18 20	58 3 30+	4 55 18 12	30,18	62	54	41 5 46,4	☉'s L. L.
	31 6 42	33 0 24	0 31 6 48	30,04	52	47	41 5 36,4	☉'s U. L.
	61 26 3	65 2 4	5 61 26 3	30,04	52	47	41 5 31,2	Spica Virginis.
5 May 1.	56 26 23	60 0 26	0 56 26 25½					Arcturus.
	55 54 27			30,35	67	59	41 5 24,5	☉'s L. L.
								☉'s U. L.
	51 3 29	51 1 27+	6 51 3 31½	30,32	57	53		{ ☉'s L. L. 20" after
☉ — 2.	56 44 30							{ Transit.
	56 12 27	59 3 26+	10 56 12 32	30,05	56	54½	41 5 30,2	☉'s L. L.
☉ — 4.	57 20 3							☉'s U. L.
	56 47 53	60 2 11	0 56 47 57½	29,96	71	59½	41 5 45,4	☉'s L. L.
☉ — 5.	57 37 22							☉'s U. L.
	57 5 32	60 3 19	6 57 5 26	29,70	64	57	41 5 41,8	☉'s L. L.
								☉'s U. L.
	32 45 35	34 3 24+	20 32 45 33	29,92	49	46		{ ☉'s L. L. 20" after
	61 26 26	64 2 5	13 61 26 21	29,90	47	45	41 5 55,1	{ Transit.
	49 21 40	52 2 19+	24 49 21 27	29,90	47	45	41 5 38,6	Arcturus.
4 — 6.	57 54 4							* Aquilæ.
	57 22 0	61 0 24+	13 57 22 1	30,27	65	54	41 5 40,7	☉'s L. L.
	56 54 40	60 2 26	0 56 54 27	30,30	49	50	41 5 46,5	☉'s U. L.
	80 24 44	85 3 5	0 80 24 45	30,31	48	49	41 6 8,5	☉ Leonis.
	61 26 16	65 2 4	0 61 26 8½	30,31	48	49	41 5 4,45	{ Achernar below the
	28 42 33	30 2 16	c 28 42 39½	30,32	49	49		{ Pole.
☉ — 7.	58 10 20							Arcturus.
	57 39 10	61 2 0	18 57 39 4½	30,31	65	56	41 5 42 3	{ ☉'s L. L. 19" after
☉ — 8.	58 26 26							{ Transit of 1st L.
	57 55 15	61 3 4	0 57 55 12	30,06	66	57½	41 5 25,2	☉'s L. L.
	61 26 17	65 2 4	c 61 26 8½	29,98	55	56	41 5 41,9	☉'s U. L.
	68 32 27	73 0 15	8 68 32 42½	29,98	55	56	41 5 34,8	☉'s L. L.
☉ — 9.	58 43 14							☉'s U. L.
	58 11 16	62 0 9	11 58 11 16	30,04	64	58½	41 5 46,0	Arcturus.
	56 54 40	60 2 26+	5 56 54 38	30,06	60	56	41 5 49,3	* Cor. Borealis.
	10 44 21	22 0 15+	25 10 44 30½	30,06	51½	51½	41 6 2,7	☉'s L. L.
	17 20 45	18 2 0+	5 17 20 42½	30,06	51½	51½	41 6 6,0	☉'s U. L.
	80 24 48	85 3 3+	10 80 24 45½	30,06	51½	51½	41 6 13,0	☉ Leonis.
	18 46 57	20 0 5	6 18 47 7	30,06	51½	51½	41 6 10,2	{ Crucis.
	23 24 18	24 3 28	6 23 24 23½	29,95	53	53		{ Achernar, below the
								{ Pole.
								* Centauri.
								{ ☉'s L. L. 20" before
								{ transit of her latter L.

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Zenith Distances			Exterior Arch reduced	Barom	Therm		Latitude deduced	Phenomena
	Interior Arch	Exterior Arch				Lat	Our		
	° ' "	G S V	° ' "					° ' "	
May 10	58 59 23								O s L L
	58 27 12	62 1 13	12	58 27 4½	29,81	70	58½	41 5 53,4	O s U L
	24 18 16	25 3 22	5	24 18 21½	29,90	48	48½		{ s L L 24 before transit of her latter L
— 11		63 0 24	11	59 14 7	30,10	48	54	41 5 49,6	O s L L
	58 43 5	62 2 17		58 43 6					O s U L
	26 18 54	28 0 9	0	26 18 57	30,30	45	44		{ s L L 22 before transit of her latter L
— 12	59 29 33				30,30	56	53	41 5 40,3	O s L L
	58 57 41	62 3 18	10	58 57 46					O s U L
	29 9 13	31 0 13	10	29 9 18	30,10	45½	45		{ s L L 24" before transit of her latter L
— 13	59 44 32				30,18	62	54	41 5 32,0	O s L L
	59 12 18	62 0 20	10	59 12 22½					O s U L
— 14	59 59 14	63 3 30	0	59 59 7	30,29	64	54½	41 5 41,6	O s L L
	59 27 28	63 1 22	8	58 27 21					O s U L
	17 20 36	18 2 0	0	17 20 37½	30,30	49½	49	41 6 11	β Crucis
	11 12 18	11 3 26	0	11 12 22	30,30	49½	49	41 5 50½	Centauri
	80 24 45	85 3 3	0	80 24 45½	30,30	49½	49	41 6 9	{ Achernar, below the Pole
	18 9 46	19 1 16	0	18 9 50½	30,30	49½	49	41 6 0	β Centauri
— 15	60 13 36	64 0 31	0	60 13 37½	30,20	64	58	41 5 44	O s L L
	59 41 24	63 2 22	0	59 41 32½					O s U L
— 17	48 4 10	51 1 4	18	48 4 16	29,48	42½	43		{ s L L 23" before transit of her latter L

The mean of all these Latitudes, Mr Bayley makes $41^{\circ} 5' 47\frac{1}{2}$ South. If a mean of the 24 Observations of the Sun and Stars, to the Northward of the zenith, be taken, and also of the nine Observations of Stars to the South of the zenith, and then a mean of these two means be taken for the Latitude, it will be found $41^{\circ} 5' 53\frac{1}{2}$ South.

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Lunar Observations for the Longitude of the Place.

1773.	Time by the Clock.		Distance of the ☉'s and ☽'s Limbs.	Zenith Distance of ☉'s U. L.	Altit. of ☽'s U. L.	Barom.	Therm.		Longitude Calc.	Remarks.
	H	M					Lat.	Sur.		
4 April 29.	5	32 20	79 52 30	70 16 50	23 34	30.14	53	50	174 14 0	Hazy.
		35 46	52 50	70 46 50	23 45					
		38 35	53 40	71 11 12	24 15					
			— 4 30		+ 3½	Errors of the Quadrants.				
5 May 1.	6	37 22	104 35 30	79 59 40	23 28	30.32	52	54½	173 50 37½	Clear, and the Objects distinct.
		41 24	104 36 34	80 37 35	24 3					
		44 54	104 37 20	81 12 30	24 32					
			Supplemental Distance of ☉ and ☽'s L.	Zenith Distance of ☽'s U. L.	Altit. of the ☉'s L. L.	Errors as above.				
6 — 8.	22	58 26,8	30 37 0	75 42 49	7 56	30.01	56	52½	Mean of 5 Obs. Mean of 4. Mean of 4.	
	23	11 30½	30 42 53	77 57 14	9 58½	30.01	56	52½		
	23	22 18	30 49 31	79 49 47	11 36½	30.01	56	52½		
			— 58		+ 2½	Errors of the Quadrants.				
7 — 9.	23	30 7,8	44 32 44	70 2 49	12 13½	29.95	61	57½	Mean of 5 Obs. Ditto of 5. Ditto of 4.	
	23	44 22,8	44 39 34	72 35 46	14 18½	29.95	61	57½		
	23	55 30½	44 45 46	74 36 28	15 52	29.95	61	57½		
	0	4 50	44 50 29	76 14 57	17 9	29.95	57	61½	Ditto of 4. Ditto of 4.	
	0	13 45½	44 56 17½	78 7 0	18 30½	29.95	57	61½		
			— 1 00		+ 2½	Errors of the Quadrants.				
8 — 10.	0	35 30,8	58 18 27	72 40 42	20 44½	29.82	64	56	Mean of 5 Obs. Ditto of 4.	
	0	47 12	58 24 31	73 47 12	22 0½	29.82	64	56		
	0	56 39½	58 30 1½	75 24 2	23 3½	29.82	64	56		
	1	4 48	58 34 36	76 51 32	23 54½	29.82	64	56	Ditto of 4. Ditto of 4.	
	1	13 39	58 39 16	78 25 44	24 50	29.82	64	56		
			— 1 0		+ 2½	Errors of the Quadrants.				
			Dist. ☉ and ☽'s nearest Limbs.	Zenith Distance of ☽'s U. L.	Altit. of ☉'s L. L.					
8 — 11.	23	35 9	109 30 45	61 35 56	11 58	30.07	54	47	173 58 1½	Very clear.
		37 38	29 42	52 2 41	12 18					
		39 46	29 0	52 25 7	12 37					
		42 11	28 30	52 51 16	12 57					
		44 17	27 22	53 13 43	13 15					
		46 3	26 37	53 32 36	13 31					
			4 19½		+ 2 50					

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued.

Lunar Observations for the Longitude of the Place

1773	Time by the Clock	Distance of the \odot and J s Limbs	Zenith Distance J s U L	Alt of \odot s L L	Barom	Therm Latent O	Longitude East	Remarks
	H	" "	" "	" "			"	
♂ May 11	23 48 02	109 25 54	53 54 28	13 49	30.07	54 47	174 2 46½	During all these Observations, the air was clear, and the objects very distinct
	50 17	25 30	54 18 53	14 7				
	52 43	23 58	54 45 10	14 28				
	55 20	21 56	55 13 24	14 50				
	57 34	22 15	55 37 26	15 9				
	0 0 11	20 25	56 5 27	15 31				
	0 2 49	109 20 0	56 34 19	15 52	30.07	54 47	173 53 33	
	5 6	18 58	56 59 40	16 12				
	7 30	18 10	57 25 30	16 32				
	10 7	16 42	57 54 21	16 51				
	12 13	14 50	58 16 42	17 10				
	14 30	14 0	58 41 33	17 28				
	0 17 10	109 13 6	59 10 47	17 48	30.07	54 47	173 38 36	
	19 49	12 22	59 40 0	18 8				
	22 10	10 50	60 5 58	18 27				
	24 24	9 52	60 30 20	18 46				
	26 55	8 20	60 57 42	19 5				
	29 20	7 25	61 24 20	19 23				
		— 4 19½		+ 2	Errors of the Quads.			
♂ — 12	23 32 42	97 8 25	44 7 22	10 58	30.25	54 54½	174 19 10	
	35 21	7 18	32 38	11 21				
	37 57	5 54	57 26	11 43				
	40 45	4 52	45 45 56	12 6				
	43 2	4 0	48 30 12	28				
♀ — 14	2 28 21	72 50 40	52 21 32	24 22	30.31	47 48	174 11 30	
	33 27	49 10	53 9 20	24 50				
	37 8	48 40	53 44 36	25 8				
	40 0	47 26	54 9 56	25 24				
	42 26	45 36	54 34 28	25 37				
	2 44 55	72 44 50	54 58 30	25 48	30.31	47 48	173 51 51	
	50 49	42 40	55 57 0	26 18				
	54 2	41 34	6 30 35	26 32				
	57 26	40 0	57 25 24	26 55				
Errors as before								

* * The height of the eye, above the sea, was, at a medium, 85 feet.

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Observations of different Sorts for the Longitude of the Place.

1773. May 6.	24	Jupiter's 2d satellite immersed at 19 h. 52' 57" by the Clock, or at 17 h. 10' 23' 6" apparent time. At the time of this Observation, the air was very clear, and the limbs of the planet, as well as its belts, exceedingly distinct and well defined; the magnifying power used was 150 times.
— 12.	28	<p>Aquarii immersed behind the Moon's bright limb at 19 h. 11' 16" $\frac{1}{2}$, or at 15 h. 54' 45" apparent time: the magnifying power used was 90 times.</p> <p>Emerſion from the dark limb at 20 h. 33' 58" $\frac{1}{4}$, or 17 h. 16' 58" $\frac{1}{4}$ apparent time. These Observations also are very good, the air being very clear, and the objects distinct and well defined: the same magnifying power was used as at the immersion.</p>

Observations for the Dip of the Magnetic Needle.

1773.	Face of the Instru- ment.		After changing the Poles of the Needle.		Mr. Bayley had here the same troublesome business with his dip- ping needle that we had at the Cape of Good Hope: for he remarks, that after labouring a whole day to bal- ance it, he found himself just where he began, and that he balanced it, after all, by discharging the magne- tism, and adjusting the needle to an equilibrium, first, in an horizontal position, by means of the balls which are on the wires, that have the same direction with the needle, and then in a vertical position, by means of those which are on the wires at right angles to it. The mean of all the dips, before the poles were changed, is $64^{\circ} 53' 8''$; the mean of all afterwards $64^{\circ} 35'$: the mean of both is $64^{\circ} 44' 4''$.
	East.	West.	Face of the Instru- ment.		
	°	°	East.	West.	
	64 35	64 30			
	65 0	64 45			
	64 49	64 46	64 21	64 36	
	64 52	64 25	64 37	64 15	
	64 54	64 35	64 32	64 20	
	64 37	65 1	64 20	64 27	
	65 3	65 0	64 29	64 39	
	64 45	65 0	64 50	64 26	
	64 45	64 43	64 54	64 49	
	64 30	64 35	64 45	64 52	
	64 25	64 36	64 19	64 50	
	64 50	64 32	64 22	64 28	
	64 53	64 54	64 40	64 41	
	64 35	64 37	64 47	64 40	
	65 0	65 0			
	64 47	64 43			

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

Observations for the Variation of the Compass

1773	Zenith Distance of the Sun	Azimuth of the Sun center	Vari- ation East
	° ' "	°	° ' "
May 2	80 30 32	N 46 30 E	
	79 55 4	46 18	
	79 31 52	45 25	
	79 14 3	45 8	13 24½
	78 58 37	45 2	
	78 40 31	44 57	
	78 22 5	44 51	
May 8	80 6 36	N 43 40 E	
	79 37 36	43 25	
	79 18 24	43 15	
	79 3 35	42 50	13 08½
	78 42 48	42 35	
	78 20 10	42 0	
	78 7 0	41 55	
May 19	76 0 0	N 34 15 E	
	75 40 38	34 0	13 16
	75 27 15	33 40	
May 20	75 47 38	N 61 15 W	
	76 6 40	61 20	
	76 37 10	61 26	
	76 51 50	61 47	
	77 10 15	61 54	
	77 29 20	63 0	
	77 43 0	63 25	13 40½
	77 59 40	63 36	
	78 24 18	64 06	
	78 35 20	64 15	
	78 56 20	65 0	
	79 15 25	65 20	
	79 37 15	65 40	
	80 0 0	65 45	

The following Variations were obtained by placing the Compass in the meridian, and turning its index to the Northern and Southern meridian marks alternately

Vari- ation East	Vari- ation East	Vari- ation East	Vari- ation East
° ' "	° ' "	°	°
13 30	13 45	13 40	13 50
13 35	13 46	13 35	13 53
14 0	13 25	13 40	13 47
13 44	13 20	13 17	13 44
13 40	13 42	13 19	13 40
13 30	13 50	13 42	13 20
13 35	13 45	13 27	13 27
13 37	13 30	13 29	13 42
13 47	13 29	13 36	13 29
13 50	13 41	14 08	13 19
13 27	13 37	13 46	13 48
13 19	13 35	13 40	13 50
13 15	13 38	13 35	13 41

The mean of all these gives the variation
13° 38' ½ E

By Observations of Amplitudes

1773	Amplitude of the Sun center	Vari- ation East
	°	°
May 7	N 54 3 E	13 25½
May 12	52 20	13 18
May 13	52 0	13 18
May 14	51 44	13 39
May 18	50 15	13 25½
May 19	50 05	13 17
May 20	49 55	13 09

The mean is 13 21½

And the mean of all gives the variation of
the Compass 13° 31 16 East

Obse ASTRONOMICAL OBSERVATIONS.

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Observations on the Tides.

1773.	Time by the Clock.	Appa- rent Time.	Height of the Water.		Remarks.	1773.	Time by the Clock.	Appa- rent Time.	Height of the Water.		Remarks.
			H.	F. I.					H.	F. I.	
D May 3.	21 15		3	6 $\frac{1}{4}$	Wind still, and water smooth.	8 May 5.	0 0		4	4	Low Water.
	21 20		3	6 $\frac{1}{4}$			0 10		4	3	
	21 30		3	7 $\frac{1}{2}$			0 20		4	2	
	21 35		3	7,7			0 30		4	1	
	21 40		3	7,8			0 40		3	11	
	21 45		3	7,8		11 — 6.	10 50		4	1 $\frac{1}{4}$	Calm, and the Water smooth.
	21 50		3	7,8			11 0		4	2	
	21 55		3	7,8			11 10		4	2 $\frac{1}{2}$	
	22 0		3	7 $\frac{1}{4}$			11 20		4	3	
	22 10		3	7			11 30		4	3	
	22 20		3	6 $\frac{1}{4}$			11 35		4	3,2	
3 — 7.	9 30		3	9	Weather as above.	11 40		4	3	Below 0.	
	9 35		3	10		11 50		4	2 $\frac{1}{2}$		
	9 55		3	10,5		12 0		4	1 $\frac{1}{2}$		
	10 0		3	10 $\frac{1}{4}$		Low Water,	0	1			
	10 10		3	11		23 30		4	2 $\frac{1}{2}$		
	10 20		3	11 $\frac{1}{2}$		40		4	3		
	10 30		3	11		50		4	4		
	10 40		3	11		0 0		4	4		
	10 45		3	10		10		4	4		
	10 55		3	9		20		4	4		
	21 50		4	2		30		4	3 $\frac{1}{2}$		
22 0		4	3	40		4	2 $\frac{1}{2}$				
22 7		4	3,7	5 — 7.	Low Water,	0	2 $\frac{1}{2}$	Below 0.			
22 15		4	4,1		11 35		4		5 $\frac{1}{2}$		
22 20		4	4,5		11 45		4		6 $\frac{1}{2}$		
22 25		4	4,5		11 50		4		7		
22 35		4	4,5		12 0		4		7 $\frac{1}{2}$		
22 45		4	4,5		12 10		4		7 $\frac{1}{2}$		
22 50		4	4,0		12 25		4		7 $\frac{1}{2}$		
22 55		4	3,7		12 30		4		7 $\frac{1}{2}$		
23 5		4	3,0		12 40		4		7 $\frac{1}{2}$		
23 15		4	2,0		12 45		4		7		
22 30		3	11 $\frac{1}{4}$		12 50		4		6 $\frac{1}{2}$		
22 45		4	0 $\frac{1}{2}$	13 0		4	5 $\frac{1}{2}$				
22 50		4	1	Low Water,	0	3	Below 0.				
23 10		4	1 $\frac{3}{4}$	0 5		4		7 $\frac{1}{2}$			
23 15		4	2 $\frac{1}{4}$	0 20		4		8 $\frac{1}{2}$			
23 25		4	3 $\frac{1}{4}$	0 25		4		9			
23 30		4	4	0 30		4		9 $\frac{1}{2}$			
23 40		4	4	0 40		4	9 $\frac{1}{2}$	Weather, &c. as above.			
23 50		4	4								

ASTRONOMICAL OBSERVATIONS

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Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

Observations on the Tides

1773	Time by the Clock	Apparent Time	Height of the Water		Remarks	1773	Time by the Clock	Apparent Time	Height of the Water		Remarks
			H	I					H	I	
2 May 7	0 50		4	9 $\frac{1}{2}$		0 May 9	2 40		4	7 $\frac{1}{2}$	
	1 0		4	9			2 50		4	7 $\frac{1}{2}$	
	1 10		4	8 $\frac{1}{2}$			3 0		4	6 $\frac{1}{2}$	
	1 20		4	7 $\frac{1}{2}$			3 5		4	5 $\frac{1}{2}$	
5 — 8	Low Water		5	4 $\frac{1}{2}$	Below 0	5 — 10	Low Water		0	0 $\frac{1}{2}$	Below 0
	12 30		4	9			Strong wind all night, and so high a sea that I could not come near the Instrument				
	12 40		4	10, 4							
	12 50		4	11, 2							
	13 10		5	1	Weather, &c as above	5 — 11	2 30		3	9	
	13 15		5	1, 1			2 40		3	10	Strong wind, and the water very rough
	13 25		5	1			3 10		3	11 $\frac{1}{2}$	
	13 35		4	11, 2			3 20		4	0	
	13 40		4	10, 4			3 30		4	0	
	13 55		4	9			3 40		3	11 $\frac{1}{2}$	
	Low Water		0	5 $\frac{1}{2}$	Below 0		3 50		3	10	
	1 0		4	4 $\frac{1}{2}$			4 0		3	9	
	1 10		4	6			Weather too bad to observe all night, and every day afterwards until the 15th				
	1 20		4	7	Before these the Clock had been put 20 forward	5 — 15	5 40		2	10	
	1 30		4	7 $\frac{1}{2}$			5 55		2	10 $\frac{1}{2}$	
	1 40		4	7 $\frac{1}{2}$			6 10		2	10 $\frac{1}{2}$	
	1 50		4	7			6 20		2	11	Weather fine and wind still
	2 0		4	5 $\frac{1}{2}$			6 40		2	11 $\frac{1}{2}$	
	2 10		4	5			7 0		2	11 $\frac{1}{2}$	
0 — 9	Low Water		0	3, 4	Below 0		7 20		2	11 $\frac{1}{2}$	
	13 30		4	8 $\frac{1}{2}$			7 30		2	11	
	13 40		4	9 $\frac{1}{2}$			7 40		2	10	
	13 50		4	11							
	14 0		4	11 $\frac{1}{2}$		5 — 17	7 0		3	2	
	14 5		4	11 $\frac{1}{2}$			7 10		3	4	Weather serene and quiet
	14 15		4	11 $\frac{1}{2}$			7 30		3	5 $\frac{1}{2}$	
	14 25		4	11 $\frac{1}{2}$			7 40		3	5 $\frac{1}{2}$	
	14 30		4	11 $\frac{1}{2}$			7 50		3	5 $\frac{1}{2}$	
	14 35		4	10 $\frac{1}{2}$			8 0		3	5 $\frac{1}{2}$	
	14 40		4	9 $\frac{1}{2}$			8 30		3	4	
	14 50		4	9			8 50		3	2	
	Low Water		0	2 $\frac{1}{2}$	Below 0		Low Water		0	0 $\frac{1}{2}$	
	1 50		4	6			21 30		3	9 $\frac{1}{2}$	
	2 0		4	6 $\frac{1}{2}$			21 42		3	10	
	2 10		4	6 $\frac{1}{2}$			21 50		3	10 $\frac{1}{2}$	
	2 20		4	7 $\frac{1}{2}$	Moderate weather		22 0		3	11	
	2 30		4	7 $\frac{1}{2}$							

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Observations on the Tides.

1773.	Time by the Clock	Appa- rent Time.	Height of the Water.	Remarks:	1773.	Time by the Clock	Appa- rent Time.	Height of the Water.	Remarks.
	H	H	F. I.			H	H	F. I.	
D May 17.	22 10		3 11	Weather calm and serene: The Moon above the horizon.	8 May 19.	0 30		4 11 $\frac{3}{4}$	
	22 20		3 11			0 50		4 11	
	22 30		3 10 $\frac{1}{2}$			1 0		4 10	
	22 40		3 10			1 10		4 9 $\frac{1}{4}$	
	22 50		3 9 $\frac{1}{4}$			1 20		4 8	
8 — 18.	Low Water.		0 2 $\frac{1}{4}$	Weather good: Moon above the horizon.	21 — 20.	11 40		4 11 $\frac{1}{2}$	Weather calm, and water undisturbed.
	22 20		4 11 $\frac{1}{2}$			11 50		5 1 $\frac{1}{2}$	
	22 30		5 0 $\frac{1}{2}$			12 0		5 1 $\frac{1}{2}$	
	22 50		5 2 $\frac{1}{2}$			12 10		5 1 $\frac{1}{2}$	
	23 0		5 3			12 20		5 1 $\frac{1}{2}$	
	23 10		5 3 $\frac{1}{2}$			12 30		5 1 $\frac{1}{2}$	
	23 20		5 3 $\frac{1}{2}$			12 40		5 1	
	23 30		5 3			12 50		5 0 $\frac{1}{2}$	
	23 40		5 2			13 0		5 0	
	23 50		5 0 $\frac{1}{2}$			Low Water.		0 1 $\frac{1}{2}$	
8 — 19.	Low Water.		4 11 $\frac{1}{2}$	Water still; Moon above the horizon.	23 50			4 10	Weather fine and water smooth: Moon above the horizon.
	0 0		1 4 $\frac{1}{4}$		0 0			4 11	
	22 40		4 8		0 10			4 11 $\frac{1}{2}$	
	22 50		4 9 $\frac{1}{4}$		0 15			4 11 $\frac{1}{2}$	
	23 0		4 10		0 20			5 0	
	23 20		4 11		0 30			5 0	
	23 30		4 11 $\frac{1}{2}$		0 40			5 0	
	23 50		5 0 $\frac{1}{4}$		0 45			4 11 $\frac{1}{2}$	
	0 0		5 0 $\frac{1}{2}$		0 50			4 11 $\frac{1}{2}$	
	0 10		5 0 $\frac{1}{2}$		1 10			4 10	
	0 20		5 0 $\frac{1}{4}$		2 — 21.	Low Water.		0 11 $\frac{1}{4}$	

Mr. Bayley made the preceding observations, by means of a glass tube of about $\frac{7}{8}$ of an inch internal diameter, with an exceeding small aperture at the bottom to admit the water; by which means, the surface of the water in the tube was rendered so steady, as not to alter $\frac{1}{8}$ of an inch when the swell of the sea was two feet. This tube was lashed fast to a ten-foot fir-rod, divided into feet, inches, and quarters. The rod was fastened to a strong post, fixed firm and upright in the water; and he is certain he could discern a difference of $\frac{1}{8}$ of an inch in the height of the water. Mr. Bayley has not deduced the apparent times from those by the clock; but it may be readily done from the preceding Observations of equal altitudes.

Observations by Mr Blyke, at Queen Charlotte's Sound, Continued

Computations of the Rates which the Clock C and Mr Arnold's Watch, No 1 went at

1773	Time by the Watch when compared	Time by Clock C when compared with the Watch	Clock faster than the Watch	Clock gains on Watch between Comparisons	Interval between the Comparisons	Watch loses on the Clock in 24 Hours	Clock loses on Syderial Time per Day	Watch loses on Syderial Time	Watch loses on Syderial Time each Day
	H	H	H	"	H	"	"	"	"
April 20	11 2	2 37 30	15 9 36	2 50	23 25	2 54,35	1 27,0	1 21 55	24,85
" 21	10 48	2 0 36	12 26	2 50	24 44	2 44,92	1 29,0	13,92	17 42
" 22	11 32	2 47 16	15 16	2 50 $\frac{1}{2}$	23 56	2 50,90	1 29,0	19 90	23 40
" 23	11 28	2 46 6 $\frac{1}{2}$	18 6 $\frac{1}{2}$	2 39 $\frac{1}{2}$	23 18	2 44,29	1 29,0	13,29	16 19
" 24	10 46	2 6 46	20 46	2 45 $\frac{1}{2}$	24 01	2 45,39	1 28,30	13 69	17 19
" 25	10 47	2 10 31 $\frac{1}{2}$	23 31 $\frac{1}{2}$	2 50	24 4	2 49,54	1 28,66	18,20	21 70
" 26	10 51	2 17 21 $\frac{1}{2}$	26 21 $\frac{1}{2}$	2 66 $\frac{1}{2}$	24 22	2 53,0	1 29,25	22,25	25,75
" 27	11 13	2 54 18	41 18	2 50	23 43	2 52,0	1 28 58	20,58	24 08
" 28	10 56	2 40 8	44 8	2 51	23 56	2 51,46	1 28,58	20 0	23 50
" 29	10 52	2 38 59	46 59	2 49	23 52	2 49,90	1 29,39	18,29	21 79
" 30	10 44	2 33 48	49 48	2 51	24 6	2 50,30	1 28,22	18 52	22 02
May 1	10 50	2 42 39	52 39	2 48	23 58	2 48,22	1 28,22	16,44	19 94
" 2	10 48	2 43 27	55 27	2 54	23 55	2 54 60	1 28,79	22 39	25,59
" 3	10 43	2 41 21	58 21	2 54 $\frac{1}{2}$	24 6	2 53 55	1 28,68	22,23	25,73
" 4	10 49	2 50 15 $\frac{1}{2}$	16 1 15 $\frac{1}{2}$	2 57	24 1	2 56,60	1 29,0	25,80	29,30
" 5	10 50	2 54 12 $\frac{1}{2}$	4 12 $\frac{1}{2}$	2 53	23 49	2 54 30	1 29,77	24 57	27 5
" 6	10 59	2 46 54	7 54	2 53 $\frac{1}{2}$	24 5	2 53,15	1 29 74	22 9	26,59
" 7	10 44	2 53 59	9 59	2 54	23 54	2 54,72	1 29,1	24 20	27 70
" 8	10 38	2 50 53	12 53	3 3	24 5	3 02 40	1 28,73	51 13	34,65
" 9	10 43	3 18 56	35 56	3 2 $\frac{1}{2}$	24 2	3 02 26	1 20 19	31,45	31 95
" 10	10 45	3 23 58 $\frac{1}{2}$	38 58 $\frac{1}{2}$	4 1 $\frac{1}{2}$	23 55	3 01 60	1 29,19	30,79	34,29
" 11	10 10	3 22 0	42 0	2 49	23 59	2 49,12	1 29,67	18 79	22 29
" 12	10 39	3 23 49	44 49	2 54	24 6	2 53 28	1 29,57	22 85	26 35
" 13	10 45	3 32 43	47 43	2 50 $\frac{1}{2}$	23 50	2 51,71	1 29,19	20 90	24,40
" 14	10 45	3 25 33 $\frac{1}{2}$	50 33 $\frac{1}{2}$	2 45 $\frac{1}{2}$	24 10	2 44,59	1 41,32	25,91	29,41
" 15	10 45	3 38 19 $\frac{1}{2}$	53 19 $\frac{1}{2}$	3 01	25 20	2 51,40	1 29,18	20 58	24 05
" 16	12 05	5 1 20 $\frac{1}{2}$	56 20 $\frac{1}{2}$	2 52 $\frac{1}{2}$	23 15	2 57 97	1 29,18	27,15	30,6
" 17	11 20	4 19 13	59 13	2 47	23 43	2 48,97	1 29,36	18,33	21,83
" 18	11 03	4 5 0	17 2 0	2 39	23 30	2 42,48	1 29,90	12,36	15 8
" 19	10 35	3 37 39	4 39	3 04	25 52	2 50 70	1 30,10	20 80	4,30
" 20	12 25	5 42 43	7 43						

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Observations made on Board the Ship, with Hadley's Quadrant.

1773.	Time by No. 1.	Altitude of the \odot 's L. L.	Error of the Quadrant.	Barom.	Thermoms.		Watch flow of mean Time.	Watch loses on mean Time.
	H " "	" " "	" " "		C.	D.	H " "	"
h May 29.	6 32 2 $\frac{1}{2}$	7 14 45	— 1 45	29,7	53	48	13 32 58,3	33,75
d — 31.	6 27 22	6 31 15 $\frac{1}{2}$	— 4 49	30,0	61	57	13 34 05,8	28,90
h June 2.	6 31 41 $\frac{1}{2}$	7 5 20 $\frac{1}{2}$	— 7 27	30,2	62	52	13 35 03,6	37,0
o — 6.	6 48 25	9 24 54	— 12 22 $\frac{1}{2}$	30,3	60	52	13 36 54,6	

Mr. Bayley, by including these with the preceding computations of the Watch's rate of going, concludes that its mean rate of losing, while here, was $25^{\frac{1}{2}}$ a day on mean time. He farther computes that the Watch was 13 h. 28' 51",3 too slow for mean time on Thursday, May the 20th, at noon.

He also makes his Clock to have lost at the rate of $1^{\circ} 29^{\circ},003$ a day on syderial time; in which computation he rejects its loss between the 14th and 15th of May. It was set up in the same manner as at the Cape, and the bob of the pendulum was 84, 2 feet above the surface of the sea at low water. The pendulum, when first set agoing, vibrated only $1^{\circ} 50'$ on each side of \odot , but increased its arcs of vibration until the 26th of April, when it swung $1^{\circ} 53'$ each way, and on May 15th it had increased to $1^{\circ} 54'$. Length of the pendulum the same as at Greenwich.

Observations at Queen Charlotte's Sound, in New Zealand.

1773.	Equal Altitudes. Time by Mr. Kendall's Watch.			Zen ith Distance.	Time of ap- parent Noon by the Watch.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
	" " "	H " "	" " "	" " "	H " "	
o May 23.	57 48 $\frac{1}{2}$	10 1 58	6 14	69 0 0	12 16 35,3	\odot 's U. L. } Easterly.
d — 24.	2 54	7 11	11 30			\odot 's L. L. }
	30 0 $\frac{1}{2}$	14 25 44:	—	69 0 0		\odot 's L. L. } Westerly.
	35 5	30 56	—			\odot 's U. L. }
h — 29.	8 04	10 12 37 $\frac{1}{2}$	17 10 $\frac{1}{2}$	69 0 0		\odot 's U. L. } Easterly.
	13 35 $\frac{1}{2}$	18 9 $\frac{1}{2}$	22 52			\odot 's L. L. }
o — 30.	22 27	14 17 48 $\frac{1}{2}$	13 8 $\frac{1}{2}$	69 0 0	12 18 07,95	\odot 's L. L. } Westerly.
	27 55 $\frac{1}{2}$	23 26	18 53			\odot 's U. L. }

Observations at Queen Charlotte's Sound, in New Zealand, Continued

1773	Equal Altitudes Time by Mr Kendall's Watch			Zenith Distance	Time of ap- parent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
	"	H	"	"	H	
8 June 2	10 52 $\frac{3}{4}$	10 15 23 $\frac{3}{4}$	20 02	69 20 0		O S U I } Easterly
	16 22 $\frac{1}{4}$	21 6	25 55 $\frac{1}{4}$			O S I L }
24 — 3	22 6 $\frac{1}{4}$	14		69 20 0	12 19 20,71	O S I I } Westerly
	27 37	14 23 06	18 27			O S U L }

* * It appears from the above Observations, that Mr Kendall's Watch was gaining now at the rate of 9 $\frac{1}{2}$,05 a day on mean time and by comparing it with Mr Arnold's, (No 3) the latter appears to have lost, while here at the rate of 1 34 $\frac{1}{2}$,158

Observations for the Variation of the
Compass

1773	Zenith Distance of the O S L L	Azimuth of the O S center	Variation East
8 May 21	71 49 0	N 21 45 L	14 14
	71 26 45	24 15	14 02 $\frac{1}{2}$
	71 9 30	23 40	14 05
	70 52 15	23 05	14 08
	70 36 45	22 15	14 29
	70 16 15	21 35	14 28
	Mean of all is		14 14 35

Observations for the Dip of the Needle

1773	Inclination of the Instru- ment		
	East	West	
8 May 21	65 10	65 5	Means
	65 20	65 15	
	65 0	64 50	
	65 10	65 04 $\frac{1}{2}$	
	Changed the Poles		Means
24 June 3	64 0	64 05	
	64 15	64 30	
	63 55	64 25	
	64 0	64 20	
	64 02	64 20	Means
So End	64 39	Mean of all	

I made the preceding Observations on the open beach, at a place which bears S 81 $^{\circ}$ 10 W by compass, from Mr Bayley's Observatory Sound passed from one place to the other exactly in 10 s perhaps $\frac{1}{4}$ th of a second may be added, on account of the time lost in letting go the Watch Two guns were fired at each place, and the times noted at the other, between seeing the explosion and hearing the report, none of which differed sensibly from another These experiments were made on a very calm evening, a little after sun setting, the Barometer standing at 30,32 and the Thermometer at 52 $^{\circ}$

Observations made at Point Venus, in Otaheite.

1773.	Equal Altitudes. Times by Clock B.			Zenith Distance.	Time of ap- parent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
	" "	" "	" "			
4 Aug. 26.	20 13 $\frac{1}{2}$	6 20 10 $\frac{1}{2}$	24. 6 $\frac{1}{2}$	65 20 0		☉'s U. L. } Easterly. ☉'s L. L. }
27.	22 37	24 34	26 29 $\frac{1}{2}$			
	24 42 $\frac{1}{2}$	14 22 44 $\frac{1}{2}$	21 48 $\frac{1}{2}$	65 20 0	10 23 33,21	☉'s L. L. } Westerly. ☉'s U. L. }
	27 07 $\frac{1}{2}$	25 09 $\frac{1}{2}$	23 13			
	50 47 $\frac{1}{2}$	5 52 42	54 40 $\frac{1}{2}$	72 20 0		☉'s U. L. } Easterly. W. B. ☉'s L. L. }
	53 7 $\frac{1}{2}$	55 6 $\frac{1}{2}$	57 0 $\frac{1}{2}$			
28.	58 35 $\frac{1}{2}$	14 56 39 $\frac{1}{2}$	54 44 $\frac{1}{2}$	72 20 0	10 25 45,41	☉'s L. L. } Westerly. W. B. ☉'s U. L. }
	0 55 $\frac{1}{2}$	58 59 $\frac{1}{2}$	57 5 $\frac{1}{2}$			
29.	39 17	6 41 15	43 11	62 5 0		☉'s U. L. } Easterly. W. B. ☉'s L. L. }
	41 42	43 39 $\frac{1}{2}$	45 38.			
30.	18 43	14		62 5 0	10 30 05 $\frac{1}{2}$	☉'s L. L. } Westerly. W. B. ☉'s U. L. }
	21 6 $\frac{1}{2}$	14 19 8 $\frac{1}{2}$	17 12:			
	4 19 $\frac{1}{2}$	6		70 20 0		☉'s U. L. } ☉'s L. L. }
	13 6 $\frac{1}{2}$	6 8 34	10 28 $\frac{1}{2}$			
	15 27	6 15 01	16 55	68 20 0		☉'s U. L. } Easterly. ☉'s L. L. }
	11 20 $\frac{1}{2}$	17 22 $\frac{1}{2}$	19 16 $\frac{1}{2}$			
	13 49	7 13 21 $\frac{1}{2}$	15 21	55 20 0		☉'s U. L. } ☉'s L. L. }
31.	50 54	13		55 20 0	10 32 14,51	☉'s L. L. } ☉'s U. L. }
	53 24	13 51 22 $\frac{1}{2}$	49 22			
	49 14 $\frac{1}{2}$	14 47 19 $\frac{1}{2}$	45 25	68 20 0		☉'s L. L. } Westerly. ☉'s U. L. }
		49 40 $\frac{1}{2}$	47 46 $\frac{1}{2}$			
		14 56 6	54 11	70 20 0		☉'s L. L. } ☉'s U. L. }
	0 22					

Observations on Point Venus, in Otaheite, Continued

	1773	Comparisons of the two Clocks with each other					
		Clock B			Clock C		
24 Aug	26	6	38	0	6	37	56
25 —	27	11	10	11 $\frac{1}{2}$	11	10	0
		14	28	17 $\frac{1}{2}$	14	28	0
		5	58	45	5	58	0
26 —	28	10	43	53 $\frac{1}{2}$	10	43	0
		15	2	0 $\frac{1}{2}$	15	1	0
		6	15	27 $\frac{1}{2}$	6	14	0
27 —	29	10	57	36 $\frac{1}{2}$	10	56	0
		6	31	10 $\frac{1}{2}$	6	29	0
28 —	30	10	59	19	10	57	0
		14	22	24 $\frac{1}{2}$	14	20	0
		6	31	53	6	29	0
29 —	31	10	44	0 $\frac{1}{2}$	10	41	0
		15	12	8 $\frac{1}{2}$	15	9	0

Computations of the going of the two Clocks

1773	Time of ap- parent Noon by Clock B	Syderal Time of ap- parent Noon	Clock fast or slow of Syderal Time	Clock B loses on Sy- deral Time	Time by B of compar- ing the Clocks	Time by C of com- paring the Clocks	Time past Noon by B when com- pared	B before C at Noon	B gains on C each Day	C loses on Sy- deral Time
	H	H			H	H				
24 Aug	27	10 23 33 21	10 23 01 5	+0 31 71	11 10 11 75	11 10 00	46 38 54	0 10 38	0 42 34	1 9 54
25 —	28	25 45 41	26 40 9	-0 55 41	10 43 53 25	10 43 00	18 7 84	0 52 72	0 42 70	2 11 01
26 —	30	30 05 13	33 58 65	-3 53 32	10 59 19 00	10 57 00	29 13 67	2 18 13	0 41 78	2 10 93
27 —	31	32 14 51	37 36 08	-5 22 47	10 44 00 25	10 41 00	11 45 74	3 59 91		
				Mean	1 28 42				Mean	2 10 69

The clocks were fixed up, as usual, by means of the iron block and frame, and stood both in one tent. The pendulums of the same length as at Greenwich, that of B vibrated over an arch of $1^{\circ} 37'$ each way from the perpendicular for the first two or three days, and afterwards over an arch of $1^{\circ} 40'$. C varied its vibrations from $1^{\circ} 45'$ on each side to $1^{\circ} 48'$, and back again to $1^{\circ} 45'$. The times of equal altitudes were always noted by B, and C compared with it in the same manner as the watches were.

ASTRONOMICAL OBSERVATIONS.

Observations on Point Venus, in Otaheite, Continued.

Computations of the going of Mr. Kendall's Watch.

1773.	Time of ap- parent Noon by Clock B.	Time by Clock of comparing the Watch.	Time past Noon by the Clock.	Clock's gain on the Watch.	Time past Noon by the Watch.	Time by the Watch when com- pared.	Time of ap- parent Noon by the Watch.	Mean Time of apparent Noon.	Watch too slow for mean Time.	Watch gains on mean Time.
	H " "	H " "	" " "	" " "	H " "	H " "	H " "	H " "	H " "	" " "
♀ Aug. 27.	10 23 33,21	10 49 41,25	26 08,04	2,54	0 26 05,50	10 37 0	10 10 54,50	0 1 16,9	13 50 22,40	
♂ — 28.	25 45,41	11 6 2,75	40 17,34	3,92	0 40 13,42	10 51 0	10 10 46,58	0 0 59,8	13 50 13,22	9,18
♂ — 30.	30 05,33	10 41 38,50	11 33,17	1,10	0 11 32,07	10 22 0	10 10 27,93	0 0 24,5	13 49 56,57	8,31
♂ — 31.	32 14,51	11 2 58,75	30 44,24	2,95	0 30 41,29	10 41 0	10 10 18,71	0 0 06,2	13 49 47,49	9,08
Mean										8,863

Computations of the going of Mr. Arnold's Watch, (No. 1.) W. B.

1773.	Time of the Com- parison by Watch.	Time of the Comparison by Clock.	Clock before the Watch.	Clock gains on the Watch between Compara- isons.	Interval between the Com- parisons.	Watch loses on the Clock each Day.	Clock loses on Syde- rial Time.	Watch loses on Syderial Time.	Watch loses on mean Time.
	H " "	H " "	H " "	" " "	" " "	H " "	" " "	" " "	" " "
♀ Aug. 27.	7 51 0	11 2 6½	3 11 6½						
♂ — 28.	7 23 0	10 37 23	3 14 23	3 16½	23 32	3 20,7	1 27,20	4 47,90	0 51,40
♂ — 29.	9 37 0	13 14 56	3 17 56	3 33	26 34	3 12,1	1 28,91	4 41,01	0 44,51
♂ — 30.	7 26 0	10 46 49½	3 20 49½	2 53½	21 29	3 13,6	1 28,91	4 42,51	0 46,01
♂ — 31.	9 46 0	13 10 17½	3 24 17½	3 28	26 20	3 9,4	1 29,15	4 38,55	0 42,05
									0 45,993

Observed Zenith Distances of the Sun and Stars for finding the Latitude.

1773.										Zenith Distances.										Barometer.	Thermometers.		Phenomena and Remarks.
										Interior Arch.				Exterior Arch.					In Tent.	Out.			
										°	"	"	"	G.	S.	V.	+						
♂ Aug. 29.										26	36	22		28	1	17	8	30,20	82½	90	☉'s U. L. on the meridian.		
♂ — 30.										56	2	46		59	3	5	22	30,15	71	70	☉'s L. L. on the meridian.		
♂ — 31.										39	56	25		42	2	14	18	30,15	70½	69	☉'s L. L. on the meridian.		
										26	25	42		28	0	25	10	30,16	84½	93	☉'s L. L. on the meridian.		
										30	13	47		32	1	0	6	30,09	75½	75½	☉'s L. L. on the meridian.		
										56	3	40		59	3	7	10	30,08	75½	73½	☉'s L. L. on the meridian.		
										39	56	22		42	2	13	26	30,09	73½	71½	☉'s L. L. on the meridian.		

Observations on Point Venus, in Otahite, Continued

Observations for the Longitude of the Place

1773	Time by the Clock B	Altitude of the \odot s L L	Zenith Distance of the \odot s U L	Distance of the \odot and \odot s Limbs	
	H	°	°	°	
27 Aug	14 41 14	20 33	47 52	116 12 0	Longitude $210^{\circ} 45'$ full
	14 43 21	20 4	47 23	12 0	
	14 45 45	19 31	46 48 $\frac{1}{2}$	12 45	
	14 47 6	19 14	46 31 $\frac{1}{2}$	13 0	
	14 48 12	18 59	46 19	13 0	
	14 49 13	18 45	46 04 $\frac{1}{2}$	13 0	Longitude 210° , 3 full W B
	Errors of the Quad	+ 1 $\frac{1}{2}$	- 0 $\frac{1}{2}$	- 1 0	
	14 54 04	17 36	44 55 $\frac{1}{2}$	116 20 30	
	14 56 04	17 11	44 28 $\frac{1}{2}$	21 10	
	14 57 09	16 57	44 13 $\frac{1}{2}$	21 30	
	14 58 38	16 38	43 53	22 5	
	14 59 54	16 18	43 35 $\frac{1}{2}$	22 20	
	15 01 03	16 04	43 20	22 45	
	Errors of the Quad	+ 1 $\frac{1}{2}$	- 0 $\frac{1}{2}$	- 3 42	

* * * The Moon's zenith distance was observed with the Astronomical Quadrant the Sun at altitude with an Hadley's Sextant Height of the eye above the sea 13 or 14 feet

1773

29 Aug

At 18 h 41 05 by the Clock, or 8 h 16 46, apparent time, the small β Capricorni disappeared; the brightness of the Moon rendered the Star so faint that I was not absolutely certain it then immersed behind the Moon's Limb

At 18 h 50 50, or 8 h 26 30 $\frac{1}{2}$ apparent time β Capricorni immersed behind the Moon's dark Limb; an exceeding good Observation

At 20 h 25 32 $\frac{1}{2}$, or 10 h 13 $\frac{1}{2}$ apparent time, β Capricorni emerged very good also W B

Observations on Point Venus, in Otaheite, Continued.

Observations for the Variation of the Compass.

1773.	Zenith Distance o's U. L.	Azimuth of the o's center.	Vari- ation East.
	o	o	o
b Aug. 28.	78 43 $\frac{3}{4}$	N. 71 o E.	5 28 $\frac{1}{2}$
	78 22 $\frac{1}{2}$	70 50	
	77 50	70 35	
	77 32 $\frac{3}{4}$	70 10	
	77 15 $\frac{1}{2}$	70 05	
o — 29.	71 41	N. 67 40 E.	6 09 $\frac{1}{4}$
	71 o	67 25	
	70 12	66 35	
	69 33 $\frac{1}{2}$	68 o	
	69 01 $\frac{1}{2}$	66 15	
	68 28 $\frac{1}{2}$	66 20	5 42 $\frac{3}{4}$
d — 30.	74 18 L. L.	N. 69 55 E.	
	73 45 $\frac{1}{2}$	69 35	
	73 17 $\frac{1}{2}$	69 05	
	72 47	68 50	
	72 27 $\frac{3}{4}$	69 o	5 41 $\frac{1}{2}$
	Altitude o's L. L.		
e — 31.	4 57	N. 84 30 W.	
	4 43	84 10	
	4 21	84 50	
	3 53	84 47	5 48 $\frac{1}{2}$
	3 23	85 o	
	Zenith Dis- tance o's L. L.		
	78 58 $\frac{1}{2}$	N. 71 50 E.	
	78 27 $\frac{1}{2}$	71 25	
	78 0 $\frac{1}{2}$	71 40	5 48 $\frac{1}{2}$
	77 33 $\frac{1}{2}$	N. 71 25 E.	
	77 14 $\frac{1}{2}$	71 5	
	76 50 $\frac{1}{2}$	70 50	
The mean is			5 39 $\frac{1}{2}$

Observations for the Dip of the Needle,
made by Mr. Bayley.

1773.	Face of the In- strument.		
	East.	West.	
	0	0	
8 Aug. 31.	28 30	29 15	
	28 27	28 45	
	28 14	28 47	
	28 20	29 0	
	28 37	28 50	
	28 15	28 37	
	28 35	29 0	
	29 05	29 35	
	29 02	28 52	
	28 45	29 0	
	28 50	29 0	
	29 0	29 27	
	28 38½	29 0½	Means.
	Changed the Poles.		
	30 15	29 50	
	30 21	30 21	
	30 02	30 48	
	31 0	30 29	
	30 56	30 56	
	30 50	31 0	
	31 0	31 10	
	30 50	30 56	
	30 0	30 30	
	31 0	30 15	
	30 15	30 25	
	31 0	30 30	
	30 37½	30 35½	Means.
	28 38½	29 0½	{ Means bef. chang- ing the poles.
	29 38½	29 48½	Means of both.
	29 43½	Dip of the Needle's S. End.	

Observations on Point Venus, in Otaheite, Continued

Observations on the Tides, by Mr Bayley

1773	Times by Clock B	Apparent Time	Height of the Water	Remarks	1773	Times by Clock B	Apparent Time	Height of the Water	Remarks	
	H	H	F			H	H	F		
h Aug 28	8 29		3 3½	High Water in the Morn	h Aug 31	11 0		3 6	Low Water in the evening	
	8 37		3 4¼			11 30		3 5½		
	8 40		3 4¾			11 40		3 5½		
	9 07		3 4¾			11 50		3 4½		
	9 18		3 4½			16 12		2 5		
	9 57		3 3¾			16 22		2 5½		
	10 06		3 3½			16 32		5½		
o — 29	10 27		3 3¼			16 45		5½		
	15 32		2 3¼		Low Water in the Even		16 49			5½
	15 35		2 3½				17 0			4½
	15 46		2 3			17 15		5		
	15 48		2 3½			17 35		5		
	16 10		2 2¾							
	16 12		2 2¼							
	16 24		2 2½							
	16 30		2 2¾							
	16 35		2 3	Low Water in the Morn		The following Observations taken by myself and contribute towards determining the times of high water				
	4 30		2 5			1773	Times by Clock B	Apparent Time	Height of the Water	Number of Observations with Remarks
	5 05		2 4			H	H	F		
	5 18		2 4½		h Aug 28					
	5 27		2 5			6 48	0	5 5	1 W mean of	
o — 30	10 5		3 5½			7 17	0	4 9½	Mean of 4 Obs	
	10 9		3 6¼		High Water		7 56	0	4 8	Ditto of 5 ditto
	10 18		3 6¼				9 0	48	4 6	Ditto of 5 ditto
	10 22		3 6				10 2	30	4 4½	11 W mean of 8
	10 33		3 6¼			o — 29	10 57	10	4 6	Mean of 4 Obs
	10 36		3 5½			11 31	6	4 8	Ditto of 6 ditto	
	10 45		3 5					4 9½	Ditto of 10 ditto	
	10 49		3 5½			6 51	30	5 7½	1 W mean of 8	
	11 0		3 5			7 30	50	5 6½	Ditto, ditto of 5	
	4 40		2 3½	Low Water in the Morn			8 11	0	4 11½	Mean of 6 Obs
	4 50		2 3½				10 21	49	4 9	Ditto of 6 ditto
	5 0		2 3½		o — 30	12 21	0	4 6½	Ditto of 6 ditto	
	5 10		2 3½			13 10	48	4 2½	11 W mean of 6	
	5 25		2 4¼			14 7	45	4 6	Mean of 6 Obs	
	5 39		2 4½					1 9	Ditto of 15 ditto	
	9 44		3 5½					4 11½	Ditto of 8 ditto	
	9 50		3 6¼					5 5	1 W mean of 8	
	9 56		3 5							
	10 08		3 6¼							
h — 31	10 20		3 6½	High Water	The above Observations of Mr Bayley were made in the Gun wherry and by the f m mean of the f at Quere (Chait) and the f which I took were made in the same manner at the f at Duffey Bay in N w 2 1 and I should have continued these Observations longer if the Native had not taken away my tube					
	10 40		3 6½							

Observations at Queen Charlotte's Sound, in New Zealand.

1773.	Equal Altitudes. Times by Clock B.			Zenith Distance.	Time of ap- parent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
♀ Nov. 5.	24 39 27 36 $\frac{1}{4}$	10 27 01 $\frac{1}{4}$ 29 56 $\frac{1}{4}$	29 21 $\frac{1}{4}$ 32 15 $\frac{1}{4}$	60 0 0	14 44 46,06	☉'s U. L. } Easterly. ☉'s L. L. }
♂ — 6.	2 16 $\frac{1}{4}$	18 59 56 $\frac{1}{4}$ 19 2 52	57 36 $\frac{1}{4}$ 0 33 $\frac{1}{4}$	60 0 0		☉'s L. L. } Westerly. ☉'s U. L. }
♂ — 8.	55 29 $\frac{1}{4}$ 58 05 55 56 58 51 $\frac{1}{4}$	9 57 47 $\frac{1}{4}$ 10 0 45 10 58 16 $\frac{1}{4}$ 11 1 12 $\frac{1}{4}$	0 08 $\frac{1}{4}$ 3 04 $\frac{1}{4}$ 0 37 3 34	67 0 0 55 40 0	14 55 46 $\frac{1}{2}$	☉'s U. L. } Easterly. ☉'s L. L. }
♂ — 9.	52 58 $\frac{1}{4}$ 55 56 53 30 56 26 6 9 9 16	18 50 37 $\frac{1}{4}$ 53 34 $\frac{1}{4}$ 19 51 10 $\frac{1}{4}$ 54 6 12 8 39 $\frac{1}{4}$ 11 45	48 18 $\frac{1}{4}$ 51 14 $\frac{1}{4}$ 48 52 51 47 $\frac{1}{4}$ 14 12	55 40 0 67 0 0 43 20 0	14 59 28,63	☉'s L. L. } Westerly. ☉'s U. L. }
♂ — 10.	49 55 53 04 $\frac{1}{4}$	17 47 26 50 34	45 01	43 20 0		☉'s L. L. } Westerly. ☉'s U. L. }
♂ — 11.	14 31 $\frac{1}{4}$ 17 37 $\frac{1}{4}$ 9 39 $\frac{1}{4}$ 12 30	10 16 52 $\frac{1}{4}$ 19 48 11 11 14 56 $\frac{1}{4}$	19 12 22 6 $\frac{1}{4}$ 14 21 17 17	65 0 0 54 40 0	15 6 54,51	☉'s U. L. } Easterly. ☉'s L. L. }
♀ — 12.	1 30 $\frac{1}{4}$ 4 28 56 40 $\frac{1}{4}$ 59 37 12 7 15 1 56 29 59 23 $\frac{1}{4}$	18 19 2 7 19 54 21 19 57 19 10 14 26 17 21 10 58 48 $\frac{1}{4}$ 11 1 42 $\frac{1}{4}$	56 49 59 47 52 02 54 58 16 44 $\frac{1}{4}$ 19 39 1 7 4 3	54 40 0 65 0 0 66 0 0 57 40 0	15 10 38,71	☉'s L. L. } Westerly. ☉'s U. L. }
♂ — 13.	22 12 $\frac{1}{4}$ 25 5 6 39 9 35 22 2 $\frac{1}{4}$ 24 58 $\frac{1}{4}$ 39 49 $\frac{1}{4}$ 42 45	19 19 22 45 20 4 19 7 13 $\frac{1}{4}$ 10 24 23 $\frac{1}{4}$ 27 18 $\frac{1}{4}$ 10 42 9 45 5	20 27 $\frac{1}{4}$ 2 1 4 55 $\frac{1}{4}$ 29 37 44 28 47 24	57 40 0 66 0 0 64 40 0 61 20 0		☉'s L. L. } Easterly. ☉'s U. L. }
☉ — 14.					15 14 22,33	

Observations on Point Venus, in Otaheite, Continued

Observations on the Tides, by Mr Bayley

1773	Times by Clock	Apparent Time	Height of the Water		Remarks	1773	Times by Clock	Apparent Time	Height of the Water		Remarks
	H		F	I			H		F	I	
b Aug 28	8 29		3	3½	High Water in the Morn	b Aug 31	11 0		3	6½	Low Water in the Evening
	8 37		3	4½			11 30		3	5½	
	8 40		3	4¾			11 40		3	6¼	
	9 07		3	4¾			11 50		3	4¾	
	9 18		3	4½			16 12		2	5½	
	9 57		3	3¾			16 22		2	5¾	
	10 06		3	3¾			16 32		2	5½	
	10 27		3	3½			16 45		2	5¾	
	15 32		2	3½			16 49		2	5¼	
	15 35		2	3¾			17 0		2	4¾	
	15 46		2	3			17 16		2	5	
	15 48		2	3½			17 9		2	5¼	
16 10		2	2¾	Low Water in the Even	17 35		2	5½			
16 12		2	2¼								
16 24		2	2½								
16 30		2	2¾								
16 35		2	3								
4 30		2	5								
5 05		2	4		Low Water in the Morn						
5 18		2	4½								
5 27		2	5								
10 5		3	5½								
10 9		3	6¼			High Water					
10 18		3	6½								
10 22		3	6								
10 33		3	6¼								
10 36		3	5½								
10 45		3	5								
10 49		3	5½								
11 0		3	5								
4 40		2	3¾	Low Water in the Morn							
4 50		2	3½								
5 0		2	3½								
5 10		2	3½								
5 25		2	4¼								
5 39		2	4½								
9 44		3	5½		High Water						
9 50		3	6¼								
9 56		3	5								
10 08		3	6¼								
10 20		3	6½								
10 40		3	6¾								

The following Observations, taken by myself, may contribute towards determining the times of high water

1773	Times by Clock	Apparent Time	Height of the Water		Number of Observations with Remarks
	H		F	I	
b Aug 28	6 48	0	5	5	L W mean of 7
	7 17	0	4	9½	Mean of 7 Obs
	7 56	0	4	8	Ditto of 5 ditto
	9 0	48	4	6	Ditto of 5 ditto
	10 2	30	4	4½	H W mean of 8
	10 57	10	4	6	Mean of 4 Obs
	11 34	6	4	8	Ditto of 6 ditto
			4	9½	Ditto of 10 ditto
			5	7½	L W mean of 8
			5	6½	Ditto, ditto of 5
		6 51 30	4	11½	Mean of 6 Obs
		7 30 50	4	9	Ditto of 6 ditto
o — 29	8 11	0	4	6¾	Ditto of 6 ditto
	10 21 49		4	2½	H W mean of 6
	12 21	0	4	6	Mean of 6 Obs
	13 10 48		4	9	Mean of 15 ditto
	14 7 45		4	11½	Ditto of 8 ditto
			5	5½	L W mean of 8

The above Observations of Mr. Bayley's, were made in the same manner and by the same men that Queen Charlotte's Sound; and the 16 which I took, were made in the same manner as those at Dusky Bay in New Zealand; I should have continued these Observations longer if the Natives had not taken away my time

The following Observations, taken by myself, may contribute towards determining the times of high water

1773	Times by Clock	Apparent Time	Height of the Water		Number of Observations with Remarks
	H		H	F I	
b Aug 28	6 48	0	5 5		L W mean of 7
	7 17	0	4 9 $\frac{1}{2}$		Mean of 7 Obs
	7 56	0	4 8		Ditto of 5 ditto
	9 0	48	4 6		Ditto of 5 ditto
	10 2	30	4 4 $\frac{1}{2}$		H W mean of 8
	10 57	10	4 6		Mean of 4 Obs
	11 34	6	4 8		Ditto of 6 ditto
			4 9 $\frac{1}{2}$		Ditto of 10 ditto
			5 7 $\frac{1}{2}$		L W mean of 8
	6 51	30	5 6 $\frac{1}{2}$		Ditto, ditto of 5
	7 30	50	4 11 $\frac{1}{2}$		Mean of 6 Obs
	8 11	0	4 9		Ditto of 6 ditto
	10 21	49	4 2 $\frac{1}{2}$		Ditto of 6 ditto
	12 21	0	4 6		H W mean of 6
	13 10	48	4 9		Mean of 6 Obs
	14 7	45	4 11 $\frac{1}{2}$		Ditto of 15 ditto
			5 5 $\frac{1}{2}$		Ditto of 8 ditto
					L W mean of 8

The above Observations of Mr Bayley's, were made in the same manner and by the same men that Queen Charlotte's Sound, and the 10 which I took, were made in the same manner as those at Dusky Bay in New Zealand. I should have continued these Observations longer if the Natives had not taken away my 1 be

Observations at Queen Charlotte's Sound, in New Zealand.

1773.	Equal Altitudes. Times by Clock B.			Zenith Distance.	Time of ap- parent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
	" "	" "	" "			
Nov. 5	24 39 27 36½	10 27 01½ 29 56½	29 21½ 32 15½	60 0 0		☉'s U. L. } Easterly. ☉'s L. L. }
6.	2 16½	18 59 56½	57 36½	60 0 0	14 44 46,06	☉'s L. L. } Westerly. ☉'s U. L. }
8.	55 29½ 58 05	9 57 47½ 10 0 45	0 08½ 3 04½	67 0 0		☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. }
9.	55 56 58 51½	10 58 16½ 11 1 12½	0 37 3 34	55 40 0	14 55 46½	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. }
10.	52 58½ 55 56 53 30 56 26 6 9 9 16½	18 50 37½ 53 34½ 19 51 10½ 54 6 12 8 39½ 11 45	48 18½ 51 14½ 48 52 51 47½ 14 12	55 40 0 67 0 0 43 20 0	14 59 28,63	☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. } Westerly. ☉'s L. L. }
11.	49 55 53 04½ 14 31½ 17 37½ 9 39½ 12 36½	17 47 26 50 34 10 16 52½ 19 48 11 11 14 56½	45 01 19 12 22 6½ 14 21 17 17	43 20 0 65 0 0 54 40 0		☉'s L. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
12.	1 30½ 4 28 56 40½ 59 37 12 7 15 1 56 29 59 23½	18 19 2 7 19 54 21 19 57 19 10 14 26 17 21 10 58 48½ 11 1 42½	56 49 59 47 52 02 54 58 16 44½ 19 39 1 7 4 3	54 40 0 65 0 0 66 0 0 57 40 0	15 6 54,51	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
13.	22 12½ 25 5 6 39 9 35 22 2½ 24 58½ 39 49½ 42 45	19 19 22 45 20 4 19 7 13½ 10 24 23½ 27 18½ 10 42 9 45 5	20 27½ 2 1 4 55½ 29 37 44 28 47 24	57 40 0 66 0 0 64 40 0 61 20 0	15 10 38,71	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
14.					15 14 22,33	

Observations at Queen Charlotte's Sound, in New Zealand, Continued

1773	Equal Altitudes Times by Clock B			Zenith Distance	Time of ap- parent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
	"	H	"		H	
O Nov 14	19 43 58 $\frac{1}{2}$	41 40 $\frac{1}{2}$		61 20 0		O s L L
	49 14 $\frac{1}{2}$	46 53	44 36 $\frac{1}{2}$			O s U L } Westerly
	4 7	20 1 45 $\frac{1}{2}$	59 28	64 40 0		O s L L }
	7 1 $\frac{1}{2}$	4 43	2 24			O s U L }
	7 9	10 9 29 $\frac{1}{2}$	11 49 $\frac{1}{2}$	68 0 0		O s U L }
	10 6 $\frac{1}{2}$	12 26	14 45 $\frac{1}{2}$			O s L L } Easterly
	23 14	10 25 32 $\frac{1}{2}$	27 50 $\frac{1}{2}$	65 0 0		O s U L }
		28 27 $\frac{1}{2}$	30 47 $\frac{1}{2}$			O s L L }
15	10 29 $\frac{1}{2}$	20 08 09 $\frac{1}{2}$		65 0 0	15 18 08 $\frac{1}{4}$	O s L L }
	13 25	11 5	8 46 $\frac{1}{2}$			O s U L } Westerly
	26 32 $\frac{1}{2}$	20 24 13		68 0 0		O s L L }
	29 30	27 9	24 49			O s U L }
	47 27	10 49 48 $\frac{1}{2}$		61 0 0		O s U L } Easterly
	50 24	52 44	55 2 $\frac{1}{2}$			O s L L }
16	53 42	19 51 24	49 5	61 0 0	15 21 54 $\frac{1}{2}$	O s L L } Westerly
	56 39	54 18 $\frac{1}{2}$	52 0 $\frac{1}{2}$			O s U L }
17	57 02	10 59 23	1 41 $\frac{1}{2}$	60 20 0		O s U L } Easterly
	59 58	11 2 18	4 37 $\frac{1}{2}$			O s L L }
18	59 20 $\frac{1}{2}$	19 57 01 $\frac{1}{2}$	54 41	60 20 0	15 29 31,52	O s L L } Westerly
	2 13	59 57 $\frac{1}{2}$	57 39			O s U L }
19	11 24	13 10 47		37 20 30		O s U L } Easterly
			16 27 $\frac{1}{2}$			O s L L }
20	3 9	18		37 20 30	15 37 10,47	O s L L } Westerly
		18 3 43 $\frac{1}{2}$				O s U L }
21	38 53	12 41 15 $\frac{1}{2}$	43 39	43 40 0		O s U L } Easterly
	41 52	44 16	46 40 $\frac{1}{2}$			O s L L }
22	48 01	18 45 37	43 12 $\frac{1}{2}$	43 40 0	15 44 51,38	O s L L } Westerly
	51 01	48 38	46 14 $\frac{1}{2}$			O s U L }

Observations at Queen Charlotte's Sound, in New Zealand, Continued.

Observed Zenith Distances of the Sun and fixed Stars.

1773.	Zenith Distances.			Barom.	Thermom.			
	Interior Arch.	Exterior Arch.			In Tent.	Out.		
		°	'					"
♂ Nov. 9.	10 16 50	10 3 27	23	30,07	50	47	Bomalhaut on the Meridian.	
	55 4 25	58 3 0	7				α Pegasi, Ditto.	
♂ — 14.	22 32 25	24 0 5	20	30,33	72½	70	♂'s U. L. Ditto.	
♂ — 15.	22 49 32	24 1 13	3	30,17	71	67	♂'s L. L. Ditto.	
	22 16 59	23 3 3	0				♂'s U. L. Ditto.	
	17 17 18	18 1 25	0	30,12	51½	50	Achernar, Ditto.	
♂ — 16.	68 53 56	73 1 31	15	30,0	57	54½	α Andromeda, Ditto.	
	17 16 50	18 1 24	23	29,99	54½	55	Achernar, Ditto.	
♂ — 17.	21 46 37	23 0 29	20	29,99	71	76	♂'s U. L. Ditto.	
	22 19 15	23 3 8	0				♂'s L. L. Ditto.	
♂ — 18.	22 5 7	23 2 8	0	29,70	71½	73½	♂'s L. L. Ditto. Cloudy.	
♂ — 20.	68 53 55	73 1 31	20	29,64	50½	47½	α Andromeda, Ditto.	
	17 17 33	18 1 26	13	29,65	48½	46½	Achernar, Ditto.	

The following Observations, for finding the Error of the Line of Collimation of the Quadrant, were made in the same manner, and by the same means, as those at Point Venus, in Otaheite: The position of the Quadrant was changed after every six Observations.

	Zenith Distance of the upper hole: the Quadrant direct.					Zenith Distance of the lower hole: the Quadrant inverted.							
	Interior Arch.			Exterior Arch.		Interior Arch.			Exterior Arch.				
	°	'	"	G. S. V.	+ "	°	'	"	G. S. V.	+ "			
	89	46	15	95	3 1	7	90	14	10	96	1 1	0	
			20			7			0		0	19	
			22			10			0		0	20	
			18			7			15		1	7	
			20			6			15		1	9	
			22			13			5		1	5	
	89	46	27	95	3 1	20	90	13	55	96	1 1	0	
			27			20			14 0		1	0	
			25			13			13 55		0	22	
			27			18			13 52		0	15	
			21			9			13 52		0	20	
			21			13			14 0		0	22	
Mean of the upper	89	46	22,1	95	3 1	12	90	14	01,6	96	1 0	24,8	Means.
Ditto of the lower	90	14	01,6	96	1 0	24,8							
Excess above 180°.			23,7		2	10,4							
Error of the Line of Collimation.			11,85		1	5,2	To be subtracted.						

To be subtracted.

Observations at Queen Charlotte's Sound, in New Zealand, Continued

Computations of the Latitude of the Place, from the preceding Observations

1773	Latitude			1773	Latitude		
	Interior Arch	Exterior Arch	Declination		Interior Arch	Exterior Arch	Declination
	°	°	°		°	°	°
By Observations of the Sun				By an Observation of Fomalhaut			
o Nov 14	41 5 55 $\frac{1}{2}$	41 5 42	18 17 04 $\frac{1}{2}$ N	d Nov 9	41 5 42 $\frac{1}{2}$	41 5 27 $\frac{1}{2}$	30 48 53 $\frac{1}{2}$ N
d — 15	41 6 0	41 5 57	18 32 33	By an Observation of α Pegasi			
h — 17	41 5 37	41 5 29 $\frac{1}{2}$	19 2 30 $\frac{1}{2}$		41 5 48 $\frac{1}{2}$	41 5 51 $\frac{1}{2}$	
u — 18	41 6 1 $\frac{1}{2}$	41 5 58	19 16 59	The preceding Stars all passed N of the Zenith			
	41 5 53 $\frac{1}{2}$	41 5 46 $\frac{1}{2}$	Means	The following of Achernar, were S of the Zenith			
By Observations of α Andromeda				d Nov 15	41 6 25	41 6 30	
d Nov 16	41 5 30 $\frac{1}{2}$	41 5 25 $\frac{1}{2}$	27 50 39 N		41 6 53	41 6 33 $\frac{3}{4}$	
h — 20	41 5 31 $\frac{3}{4}$	41 5 32 $\frac{1}{2}$			41 6 9 $\frac{1}{2}$	41 5 50 $\frac{1}{2}$	
	41 5 31	41 5 29	Means		41 6 29	41 6 18	Mean by Achernar
					41 5 41	41 5 38 $\frac{1}{2}$	Mean of N Stars
					41 6 6 $\frac{1}{2}$	41 5 58 $\frac{1}{2}$	Mean of both
				And 41 6 2 $\frac{1}{2}$ is the Latitude South			

Observations for the Longitude of the Place

1773	Time by the Clock.	Apparent Time	Zenith Distance D & U L	Distance @ and D & near soft Lamb	Longitude East	Remarks, &c.
	H	H	°	°	°	
d Nov 6	9 27 28	18 44 33,4	58 24	99 28	174 2 51	{ Observed with a Quadrant of Mr Dollond's making, and 1 16" must be subtracted from the distance for its error
	29 36		32	28		
	31 8		37	27		
	33 13		44 $\frac{1}{2}$	27		
	35 5		51 $\frac{1}{2}$	26 $\frac{1}{2}$		
	36 33	18 58 32	56 $\frac{1}{2}$	25 $\frac{1}{2}$	174 54 45	{ Observed with a Quadrant of Mr Ramsden's making, and 2 00 must be added to the distance for its error
	9 42 22		59 19 $\frac{1}{2}$	99 22		
	43 43		24 $\frac{3}{4}$	22		
	45 19		31	21 $\frac{1}{2}$		
	47 0		38	21		
	48 28		44 $\frac{1}{2}$	20 $\frac{1}{2}$		
	50 16		53 $\frac{1}{2}$	19 $\frac{1}{2}$		

Observations at Queen Charlotte's Sound, in New Zealand, Continued.

Observations for the Longitude of the Place.

1773.	Time by the Clock.		Apparent Time.		Zenith Distance by U. L.	Distance of the Sun and the nearest Limbs.	Longitude East.		Remarks, &c.
	H	M	H	M	Q	Q	Q	M	
Nov. 8.	10	12	30		50	21 $\frac{1}{2}$	75	33 $\frac{1}{2}$	Distance observed by Mr. Ramsden's Quadrant: Error 2' 05"; to be added.
		14	49			22 $\frac{1}{2}$		32 $\frac{1}{2}$	
		16	23			23		33	
		19	52	19 22 52		25		31 $\frac{1}{2}$	
		21	13			26		31	
		22	47			27 $\frac{1}{2}$		30 $\frac{1}{2}$	The distances were observed with Mr. Dollond's Quadrant, and 1' 17" must be subtracted for its error.
	10	40	59 $\frac{1}{2}$		50	53	75	27	
		42	20			55 $\frac{1}{2}$		26 $\frac{1}{2}$	
		44	04	19 49 14		58 $\frac{1}{2}$		26	
		45	09		51	01		25 $\frac{1}{2}$	
— 18.		46	16			04		25 $\frac{1}{2}$	Distances with Dollond's Quadrant, and 1' 9" must be subtracted for its error.
		47	24			06 $\frac{1}{2}$		24 $\frac{1}{2}$	
	18	43	49		24	15	51	4	
		45	32			11 $\frac{1}{2}$		4 $\frac{1}{2}$	
		47	04	3 17 17.8		7		5	
		48	11			5 $\frac{1}{2}$		5 $\frac{1}{2}$	The distance was observed with Ramsden's Quadrant, and 2' 30" must be added for its error.
		49	11			2 $\frac{1}{2}$		6	
		50	18			1		6 $\frac{1}{2}$	
	18	53	53		23	55	51	05 $\frac{1}{2}$	
		56	46			51		06 $\frac{1}{2}$	
— 20.		58	02 $\frac{1}{2}$	3 28 19.		49		6 $\frac{1}{2}$	Distance by Dollond's Quadrant, and its error was 1' 00", to be subtracted.
		59	19			47 $\frac{1}{2}$		7	
	19	0	34			46 $\frac{1}{2}$		7 $\frac{1}{2}$	
		01	48			46		7 $\frac{1}{2}$	
	18	20	49		45	7 $\frac{1}{2}$	77	4 $\frac{1}{2}$	
		23	12			44		6	Distance by Ramsden's Quadrant; and its error was 2' 14", to be added.
		25	09	2 48 8.4		44		6 $\frac{1}{2}$	
		26	40			44		7	
		28	15			43		7 $\frac{1}{2}$	
		30	29			43		8 $\frac{1}{2}$	
	18	55	45		39	45	77	14 $\frac{1}{2}$	
		57	16			39		15	
		58	50	3 21 57.4		39		15 $\frac{1}{2}$	
	19	0	16			39		16	
		2	16			38		16 $\frac{1}{2}$	
		3	38			38		17 $\frac{1}{2}$	

Observations at Queen Charlotte's Sound, in New Zealand, Continued

Observations on the Tides

1773	Time by the Clock	Apparent Time	Height of the Water	Remarks	1773	Time by the Clock	Apparent Time	Height of the Water	Remarks
	H	M	F	I		H	M	F	I
Nov 15	15	01	3	8	Nov 19	16	40	3	4
Nov 16	15	16	3	11		17	2	3	7
	12	30	8	6½		17	27	3	10
	12	49	3	10		17	45	4	0
	13	14	3	7		14	26	7	6½
	14	11	3	1		14	31	7	4
	14	11	22	46,1		14	34	4	3
	15	7	3	1		16	16	4	2
Nov 17	15	35	3	7		17	57	4	1
	15	55	3	10		18	01	4	2
			8	6		18	08	4	3
			8	1½		15	35	7	2
	14	02	3	0		15	39	7	2
	14	58	2	6½		15	47	4	4
Nov 18	15	55	3	0		17	11½	4	3
			8	0		18	39	4	2
			7	10		18	43	4	3
	13	37	4	0		18	46	4	4
	13	59	3	10					
	14	27	3	7					
	14	52	3	4					
Nov 19	15	43½	0	10,3					
			2	6					

In these eight days, the time of high water advanced only 4 h 44 instead of 6 h 40, which I conceive it ought to have done. The observations were made by means of two posts, divided into feet and inches, from their tops downwards; and their tops were placed truly level by the astronomical quadrant.

Observations for the Dip of the Magnetic Needle, made at Tolaga Bay,
in New Zealand, by Mr Bayley

1773	Dip of the Needle's South End				The latitude of Tolaga Bay Mr Bayley found to be 38° 21 1/2 S and its longitude 178 33 1/2 E. The variation of the compass was 13° 40 E
	Face of the Instrument		After changing the Poles		
	East	West	Face East	Face West	
	° ' "	° ' "	° ' "	° ' "	
Nov 15	62 0	62 15	62 0	62 10	
	62 27	62 35	62 30	62 27	
	61 55	63 0	62 55	63 0	
	62 10	62 45	62 16	62 40	
	62 35	63 20	62 10	61 55	
	63 0	62 27	61 55	62 0	
	62 47	62 45	62 27	62 30	
	62 24	62 0	63 0	62 15	
	61 50	62 15	62 40	62 20	
	62 16	62 10	62 16	62 45	
Means	62 20,4	62 33,2	62 24,9	62 24,2	
Mean of the above four Means				62 25,7	

Observations by Mr Bayley, at Queen Charlotte's Sound, in New Zealand

1773	Equal Altitudes Times by the Clock C			Zenith Distance	Time of apparent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
	h m s	h m s	h m s	° ' "	h m s	
Dec. 6		12 9 18	11 49	61 0 0		<div> <div> <div>0's U L</div> <div>0's L L</div> <div>0's U L</div> <div>0's L L</div> </div> Easterly </div>
	9 44	12 15 $\frac{1}{2}$				
	18 40 $\frac{1}{2}$	12 18 15	20 34 $\frac{1}{2}$			
7		21 11		59 20 0	16 53 39,6	<div> <div>0's L L</div> <div>0's U L</div> <div>0's L L</div> <div>0's U L</div> </div> Westerly

Observations by Mr. Bayley, at Queen Charlotte's Sound, in New Zealand.

1773.	Equal Altitudes. Times by Clock C.			Zenith Distance.	Time of ap- parent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
	" "	H " "	" "			
2 Dec. 8.	53 16½ 56 11½	20 50 46½ 53 42½	48 17½ 51 11½	52 0 0		☉'s L. L. ☉'s U. L.
	10 23½ 44 52	21 4 59 21 42 18½	2 29½ 39 49:	54 40 0		☉'s L. L. ☉'s U. L. } Westerly.
	12 37	21 45 17½ 12 15 8½	42 46½ 17 38½	61 40 0		☉'s L. L. ☉'s U. L.
	40 57½	12 18 4½ 13 40 30	20 35½ 43 02	61 0 0		☉'s L. L. ☉'s U. L. } Easterly.
		13 43 28½	46 01½	45 0 0		☉'s L. L.
4 — 9.	19 26	20 16 53½ 20 19 52½	14 21 17 20½	45 0 0	17 0 08,77	☉'s L. L. ☉'s U. L.
	47 45½ 45 50	21 42 19½ 21 45 17½	39 50½ 42 45½	61 0 0		☉'s L. L. ☉'s U. L. } Westerly.
	48 46½ 36 22½	12 48 20½ 12 51 16½	50 49	55 20 0		☉'s L. L. ☉'s U. L. } Easterly.
	40 21:	13 39 53½ 13 42 51½	42 24½ 45 22½	45 40 0		☉'s L. L.
8 — 10.	26 33½ 28 29½	20 24 2 20 26 59½	21 32 24 28½	45 40 0	17 3 23,95	☉'s L. L. ☉'s U. L.
	18 8 21 3½	21 15 37½ 21 18 32½	16 2½	55 20 0		☉'s L. L. ☉'s U. L. } Westerly.
	20 21½ 23 18	12 22 53 12 25 49½	25 24 28 19½	60 40 0		☉'s L. L. ☉'s U. L. } Easterly.
	6 37½	13 9 7 13 12 3½	11 37 14 31½	52 0 0		☉'s L. L.
6 — 11.	6 48½	21 1 23½ 21 4 19½	58 53½ 1 50	52 0 0	17 6 40,90	☉'s L. L. ☉'s U. L.
	50 8½ 53 4½	21 47 36½ 21 50 34½	45 6 48 2½	60 40 0		☉'s L. L. ☉'s U. L. } Westerly.
	52 49: 55 46½	11 55 21 11 58 21	57 55	66 20 0		☉'s L. L. ☉'s U. L. } Easterly.
	53 40½ 56 36½	12 56 11 12 59 7	58 41 1 37	55 0 0		☉'s L. L.
0 — 12.	23 23 26 17½	21 20 52½ 21 23 47½	18 23 21 18½	55 0 0	17 09 56,71	☉'s L. L. ☉'s U. L.
	24 11½ 27 9	22 21 38 22 24 37½	22 5½	66 20 0		☉'s L. L. ☉'s U. L. } Westerly.

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Computations of the Rate which Mr. Arnold's Watch (No. 1.) went at.

1773.	Time by the Clock.		Time by the Watch.		Clock before the Watch.		Watch loses on the Clock.		Time between the Comparisons.		Watch loses on the Clock per Day.		Watch loses on Syderial Time per Day.		Watch loses on Syderial Time per Day.		Watch loses on mean Time per Day.	
	H	"	H	"	H	"	"	"	H	"	"	"	"	"	"	"	"	
d Dec. 7.	17	3 8	8 25 0	8 38 08														
h — 8.	17	4 38	8 23 0	8 41 38	3 30	23 58	3 30,29	1 8,92	4 39,21	42,71								
h — 9.	17	16 10	8 31 0	8 45 10	3 32	24 08	3 30,83	1 8,41	4 39,24	42,74								
h — 10.	17	7 40½	8 19 0	8 48 40½	3 30½	23 48	3 32,25	1 9,12	4 41,37	44,87								
h — 11.	16	50 11	7 58 0	8 52 11	3 30½	23 39	3 33,57	1 7,75	4 41,32	44,82								
h — 12.	18	8 57	9 13 0	8 55 57	3 46	25 15	3 35,07	1 9,0	4 44,07	47,57								
h — 13.	17	11 22	8 12 0	8 59 22	3 25	22 59	3 33,93	1 8,86	4 41,79	45,29								
h — 14.	16	33 52	7 31 0	9 2 52	3 30	23 19	3 36,0	1 7,02	4 43,02	46,52								
h — 15.	17	26 34	8 20 0	9 6 34	3 42	24 49	3 34,83	1 7,02	4 41,85	45,35								
																		44,984

Mr. Bayley farther computes, that the Watch was too slow for mean Time, at Queen Charlotte's Sound, on December the 15th, at noon, by 15 h. 42' 17", 46.

Meridian Altitudes of the Sun and Stars for determining the Latitude.

1773.	Zenith Distance.					Latitude.	Phenomena.
	Interior Arch.	Exterior Arch.		Exterior Arch reduced.			
	° ' "	G. S. V.	"	° ' "	° ' "		
d Dec. 7.	18 42 50	19 3 27	0	18 42 48,1	41 5 58,1	☉'s L. L.	
	18 10 15	19 1 17	0	18 10 16,9		☉'s U. L.	
g — 10.	18 24 40	19 2 18	0	18 24 47,1	41 5 43,3	☉'n L. L.	
	17 51 18	19 0 06	0	17 51 23,2		☉'s U. L.	
h — 11.	18 20 0				41 5 48,2	☉'s L: L.	
	17 46 25	18 3 27	0	17 46 33,1		☉'s U. L.	
	57 05 55	60 3 20	0	57 5 58,5	41 5 27,8	Aldebaran,	
	32 36 08	34 3 3	0	32 36 0,3	41 5 33,1	Rigel.	
	69 26 18	74 0 9	— 10	69 26 17,3	41 5 17,5	β Tauri.	
	48 24 37	51 2 18	0	48 24 47,1	41 5 08,8	α Orionis.	
d — 13.	57 6 02	60 3 20	+ 9	57 6 7,5	41 5 35,3	Aldebaran.	
Latitude					41 5 34	South.	

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

Observations for the Longitude of the Place

1773	Time by the Clock		Apparent Time.	Altitude of the O's L L		Zenith Distance D's U L		Distance nearest Limbs of O and D		Barom Inches	Therim In Tent Out		Longitude East									
	H	M		H	M	M	M	H	M		°	'										
Dec 6	12	40 45	19 53 33,6	34 27	55 4 36	94 53 35	30,32	53½	50			174 01 01½										
		44 26		35 6	55 30 0	53 0																
		47 34		35 42	55 50 10	52 10																
		49 05		36 0	56 0 24	51 37																
		51 32		36 28	56 14 30	51 10																
	12	55 02	20 5 47,5	37 06	56 41 25	94 50 0	30,32	53½	50						174 25 0							
		57 04		37 30	56 55 20	49 0																
		59 01		37 54	57 10 12	48 10																
				38 10	57 21 5	47 0																
				43 22	60 55 36	94 37 0																
	13	0 36	20 37 45,3	43 52	61 18 50	35 55	30,32	53½	50									174 12 34½				
		28 25		44 17	61 34 50	35 45																
		31 15		51 39	67 29 0	94 19 40																
		33 13		52 10	67 55 10	18 15																
				52 42	68 20 53	17 10																
	13	28 25	21 23 9,3				30,32	56	51												174 14 34½	
		31 15																				
		33 13																				
7	11	7 22	18 17 12,7	16 37	44 15 10	83 8 35	30,30	52	54½			174 11 22½										
		14 10		17 52	6 4	6 17																
		18 21		18 36	1 18	5 25																
				30 30	45 20 0	82 42 22																
				31 15	33 30	41 15																
	12	22 45	19 32 53,6	31 37	41 10	40 40	30,30	56	55						173 56 01½							
		26 45		32 0	48 18	40 20																
		28 46		32 17	54 12	39 55																
		30 44		32 36	46 0 30	39 10																
		32 15																				
		33 52				The errors of the Quadrants as above																
	8	8	40 55	15 47 13,7	Altitude of Re-gulus	Zenith Distance D's L L	Distance D's far L from Re-gulus	30,40	54										51½			174 16 26½
			46 56		56 31	26 34	38 44 30															
			50 57		56 02	27 37	48 0															
		53 37	55 51		28 19	49 40																
		57 12	55 42½		28 42	51 10																
9		1 14	15 58 18,0	55 31½	29 17	53 15	30,40	54	52			173 52 30										
				55 22	29 56	54 30																
													Errors of the Quadrants									

ASTRONOMICAL OBSERVATIONS.

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Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Observations for the Longitude of the Place.

1773.	Time by the Clock.	Apparent Time.	Altit. of the ☉'s L. L.	Zenith Distance ☉'s U. L.	Distance nearest Limbs of ☉ and ☿.	Barom.	Therm. In Tent.	Out.	Longitude East.
	H M S	H M S	° ' "	° ' "	° ' "	inches.	°	°	° ' "
8 Dec. 8.	10 59 26		14 40	43 37 22	70 27 25				
	11 2 15		15 10	43 21 36	26 15				
	4 28		15 35	43 9 0	26 0				
	6 58		16 0	42 56 25	25 50				
	8 46	18 09 57	16 20	42 46 36	25 10	30.37	54	52	174 9 22½
	10 43		16 39	42 36 42	25 0				
	12 23		16 58	42 28 41	24 20				
	13 58		17 16	42 21 0	23 40				
	15 45		17 34	42 12 20	22 30				
			+ 4	☉'s L. L.	— 3 30	Errors of the Quadrants.			
9 — 10.	10 58 19		13 25	37 21	43 49 36	30.40	56	54	174 11 3
	11 1 36	17 55 14.2	14 0	37 54	49 15	Errors of the Quadrants as above.			
	11 3 21		14 20	38 12	48 30				
8 — 14.	3 19 50	10 1 56.0	☿'s first satellite emerged: the air very clear, and ☿'s belts exceedingly distinct: Magnifying power 150.						174 15 30

Observations on the Tides.

1773.	Appa- rent Time.	Time by the Clock.	Height of the Water	Remarks.	1773.	Appa- rent Time.	Time by the Clock.	Height of the Water.	Remarks.
	H	H	F. I.			H	H	F. I.	
9 Dec. 13.		13 16	1 6		9 Dec. 13.		15 35	1 6	
		13 20	1 7		8 — 14.		19 0	0 8½	
		13 25	1 8				19 12	0 7	
		13 30	1 9		2 18	19 34	0 6½	Low Water.	
		13 38	1 10			19 50	0 7		
		13 42	1 10½			20 13	0 8½		
		13 47	1 11			14 0	1 9		
	21 7	14 23	1 11½	High Water.		14 5	1 10		
		14 55	1 11			14 15	2 0½		
		15 1	1 10½			14 25	2 02½		
		5	1 10			14 30	2 03½		
		15 1	1 9			14 45	2 04½		
		23	1 8		21 51	15 10	2 05½	High Water.	
		30	1 7			15 40	2 04½		

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

Observations on the Tides

1773	Appa rent Time H	Time by the Clock H	Height of the Water F Y	Remarks.	1773	Appa rent Time H	Time by the Clock H	Height of the Water F Y	Remarks
8 Dec 14		15 47	2 3 $\frac{1}{2}$		8 Dec 15		15 25	2 2	
		15 53	2 2 $\frac{1}{2}$				15 41	2 3	
		16 03	2 0 $\frac{1}{2}$		22 39	16 1	2 4 $\frac{1}{2}$		High Water
		16 15	1 10				16 25	2 3	
		16 22	1 9				16 35	2 2	
8 — 15		19 50	0 9				16 45	2 0 $\frac{1}{2}$	
		19 56	0 8 $\frac{1}{2}$				16 51	1 11 $\frac{1}{2}$	
	3 5	20 25	0 7	Low Water	24 — 16		17 5	1 10 $\frac{1}{2}$	
		20 55	0 8 $\frac{1}{2}$				20 40	0 8	
		20 58	0 9				20 47	0 7	
		15 0	1 10 $\frac{1}{2}$			3 54	21 17	0 6	Low Water
		15 6	1 11 $\frac{1}{2}$				1 46	0 7	
		15 14	2 0 $\frac{1}{2}$				1 55	0 8	

In the foregoing Observations, Mr Bayley used two posts, as I did but the o, or begin-
ning of the divisions on that he found the high water by, was 4 feet and $\frac{1}{4}$ of an inch higher than
o on that whereby low water was estimated consequently, so much must be added to the dif-
ference of the heights of the water, as put down at these two times

Observations by Mr. Bayley, at the Cape of Good Hope.

1774.	Equal Altitudes. Times by the Clock C.			Zenith Distances.	Time of apparent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire	Upper Wire.			
		H			H	
5 March 22.	21 40.	20 24 27	26 34	62 20 0		☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. } ☉'s L. L. }
	24 29	20 26 56½	29 24			
	33 8	20 34 37¼	37 5½	60 20 0		
	35 0½	20 37 29½			0 6 17,66	
8 — 23.	37 12	3 34 43½		60 20 0		☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. }
	40 03½	3 37 35½	35 5½			
	47 41¼	3 45 14	42 46½	62 20 0		
	50 31	3 48 4	45 37½			
	45 46½	19 48 7½	50 29½	70 0 0		☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. } ☉'s L. L. }
	48 27½	19 50 51½	53 12½			
		20 6 46	9 8	66 20 0		
	7 4½	20 9 30½	11 52½			
	18 04	20 20 29	12 55	63 40 0		☉'s U. L. } ☉'s L. L. }
	20 50½	20 23 19½	25 44		0 8 18,70	
24 — 24.	55 51½	3 52 55½	50 30	63 40 0		☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. }
	58 9½	3 55 44	53 18½			
	9 8	4 6 43	4 18½	66 20 0		
		4 9 29½	7 5½			
	27 41½	4 25 19½	22 58½	70 0 0		☉'s L. L. } ☉'s U. L. } Easterly. ☉'s L. L. } ☉'s U. L. }
	30 24½	4 28 3½	25 42½			
2 — 25.		19 45 19½	47 40½	71 50 0		☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. } ☉'s L. L. }
	45 41¼	19 48 3½				
	8 43	20 11 8		66 45 0		
		20 13 55½			0 12 21,62	
h — 26.		4 10 23		66 45 0		☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. }
	15 34½	4 13 9½				
	38 36	4 36 16		71 50 0		
		4 38 57	36 38			
o — 27.	20 37	21 23 20	26 05	54 40 0		☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. } ☉'s L. L. }
	23 44½	21 26 30	29 14½			
		21 34 18	37 06	52 48 0		
	34 43½	21 37 34½			0 16 25,08	
h — 28.		2 54 53		52 48 0		☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } Cloudy.
		3	55 20½			
		3 9 6	3 14	54 40 0		

Observations by Mr Bayley, at the Cape of Good Hope, Continued

1774-	Equal Altitudes Times by the Clock C			Zenith Distance.	Time of apparent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
	H	"	"			
8 March 29	Removed the Tent, Clock, &c. into another part of the garden, because where it had stood hitherto, the wind blew a great deal of sand and dust into the Observatory, which hurt the instruments but in doing of this, the length of the pendulum was not altered but the pendulum was secured as it was. The Clock stood before facing the north, it now faced the south, so that in both cases the pendulum vibrated E and W or parallel to the Table Mountain nearly					
	26 45	7 30 4½	33 24½	} 58 30 0	9 56 40,12	Regulus East
	26 35½	12 23 16½	19 55			Regulus West
		20 24 16½	26 42½	} 69 40 0	0 35 32,56	O s U L
	24 39	20 —	29 28			O s L L
	37 21½	20 29 47½	42 1	} 66 40 0		O s U L
	40 10	20 42 37	45 5½			O s L L
	47 50	20 50 19	5 48½	} 64 40 0		O s U L
	50 40½	20 53 11	55 40			O s L I
8 — 30	20 0	4 17 31	14 59½	} 64 40 0		O s L L
	22 50	4 20 21½	17 53½			O s U I
	30 30½	4 28 1½	25 36	} 66 40 0		O s L L
	33 19½	4 30 51½	28 24			O s U L
	46 2½	4 —	41 10½	} 69 40 0		O s L L
		4 45 22	43 57½			O s U I
	56 48	20 59 17½	1 48	} 63 40 0		O s U I
	59 40	21 2 11½	4 43			O s I I
	7 38	21 10 16	12 40	} 61 40 0		O s U L
	10 29½	21 13 3½	15 36			O s L L
24 — 31	4 52	4 2 18	59 44	} 61 40 0	0 37 52,57	O s L L
	7 48½	4 5 15½	2 41½			O s U L
	15 41	4 13 9	10 37	} 63 40 0		O s I L
	18 32	4 16 3	13 32			O s U L
	18 49	20 26 13	28 38	} 70 40 0		O s U L
	26 35	20 29 0	31 25½			O s L L
	35 51	20 38 20	40 44	} 68 20 0		O s U L
	38 38½	20 41 06	43 32			O s L L
9 April 1	41 17	4 38 49	36 22½	} 68 20 0	0 40 10,64	O s L L
		4 1 39	39 12½			O s U L
	53 11	4 50 56	48 29½	} 70 40 0		O s L L
	56 7	4 53 42½	51 17			O s U L
	36 13½	20 38 39½	41 17½	} 70 20 0		O s U L
	39 0½	20 41 2½	43 5½			O s L L
		20 50 54	53 22½	} 68 0 0		O s U L
	51 14½	20 53 44				O s L L
0 — 3						

Observations by Mr. Bayley, at the Cape of Good Hope, Continued.

1773.	Equal Altitudes. Times by the Clock C.			Zenith Distance.	Time of ap- parent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
○ April 3.		21 59 52	2 43	55 40 0		○'s U. L. } Easterly. ○'s L. L. }
○ — 4.	18 1/2	22 3 9			0 47 12,0	
	33 42 1/2	3 30 52		55 40 0		○'s L. L. } ○'s U. L. }
	42 43 1/2	4 40 13 1/2	31 17 1/2	68 0 0		○'s L. L. } Westerly. ○'s U. L. }
	54 55 1/2	4 52 29 1/2	40 36 1/2	70 20 0		○'s L. L. } ○'s U. L. }
	57 45	4 55 17 1/2	52 51 1/2	70 20 0		○'s L. L. } ○'s U. L. }
	39 51	20 42 15 1/2	44 43 1/2	68 0 0		○'s L. L. } Easterly. ○'s U. L. }
	42 37 1/2	20 45 6		65 0 0		○'s L. L. } ○'s U. L. }
	52 3 1/2	20 54 33	57 02		0 49 33,30	
	54 54 1/2	20 57 24 1/2	59 54			○'s L. L. } ○'s U. L. }
	8 05	21 10 38 1/2	13 11 1/2	65 0 0		○'s L. L. } ○'s U. L. }
	11 01 1/2	21 13 34				
♂ — 5.	27 41 1/2	4 25 09 1/2		65 0 0		○'s L. L. } ○'s U. L. }
	30 35 1/2	4 28 4	25 31	68 0 0		○'s L. L. } Westerly. ○'s U. L. }
	43 46 1/2	4 41 17 1/2	38 46 1/2	70 20 0		○'s L. L. } ○'s U. L. }
	46 36 1/2	4 44 7 1/2	41 38 1/2			○'s L. L. } ○'s U. L. }
	56 3 1/2	4 53 36		70 20 0		○'s L. L. } ○'s U. L. }
	58 49 1/2	4 56 24 1/2	53 57 1/2	70 20 0		○'s L. L. } Easterly. ○'s U. L. }
	43 25 1/2	20 45 52 1/2	48 21			○'s L. L. } ○'s U. L. }
	46 14	20 48 42 1/2		67 0 0		○'s L. L. } ○'s U. L. }
	1 03	21 3 31 1/2	6 2 1/2		0 51 54,655	
	3 53 1/2	21 6 25	8 57			○'s L. L. } ○'s U. L. }
♂ — 6.	39 31	4 36 59 1/2	34 28 1/2	67 0 0		○'s L. L. } Westerly. ○'s U. L. }
	42 23 1/2	4 39 52 1/2	37 22 1/2	70 20 0		○'s L. L. } ○'s U. L. }
	57 9 1/2	4 54 41 1/2		72 40 0		○'s L. L. } ○'s U. L. }
	59 58 1/2	4 57 31 1/2	55 04			○'s L. L. } Easterly. ○'s U. L. }
♂ — 9.	45 38	20 48 5	50 33 1/2	68 40 0		○'s L. L. } ○'s U. L. }
	48 25 1/2	20 50 54 1/2	53 22 1/2			○'s L. L. } ○'s U. L. }
	6 49	21 9 20 1/2	11 52	66 45 0		○'s L. L. } ○'s U. L. }
	9 42 1/2	21 12 15 1/2	14 47		1 1 24,12	
	17 10 1/2	21 19 44 1/2	22 19 1/2			○'s L. L. } Westerly. ○'s U. L. }
	20 06 1/2	21 22 41	25 16			
○ — 10.	42 16	4 39 41 1/2	37 6 1/2	66 45 0		
	45 13 1/2	4 42 39 1/2	40 04 1/2			

Observations by Mr Bayley, at the Cape of Good Hope, Continued

1773	Equal Altitudes Times by Clock C			Zenith Distance	Time of ap- parent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
		H	"			
O April 10	52 41	4 50 8½	47 36	68 40 0		O's L L
	55 33½	4 53 2½	50 31			O's U L
	13 55½	5 11 29	9 0	72 40 0		O's L L
	16 44½	5 14 17½	11 49½			O's U L
						} Westerly

Westerly

It is manifest, at first sight, that the clock went considerably faster after it was taken down than it did before Mr Bayley remarks, that he is absolutely certain that no alteration happened in the length of the pendulum, but does not attempt to assign any other cause, which indeed does not seem easy to be done When it was first set up, the pendulum vibrated 1° 44 each way from the perpendicular, or point of rest, and increased its vibrations regularly, until it was removed, when its vibrations were 1° 48 each way After it was removed, the vibrations were from 1° 46 to 1° 47 each way

Computations of the going of Clock C

1774	Time of apparent Noon by the Clock	Syderal Time of apparent Noon	Clock flow of Syderal Time	Clock loses on Syderal Time
	H	H	"	"
March 23	0 6 17 66	0 10 36 5	4 18 84	1 36 66
24	0 8 18 70	0 14 14 2	5 55 50	1 36 35
25	0 12 21 62	0 21 29 82	9 08 20	1 35 96
26	0 16 25 08	0 28 45 2	12 20 12	1 36 327
Removed the Observatory Clock Ac.				
30	0 35 32 56	0 36 00 8	0 28 24	1 17 79
31	0 37 52 57	0 39 38 6	1 46 03	1 19 87
April 1	0 40 10 64	0 43 16 54	3 05 90	1 17 97
2	0 47 12 00	0 54 11 8	6 54 80	1 17 40
3	0 49 33 30	0 57 50 5	8 17 20	1 17 44
4	0 51 54 66	1 1 29 3	9 34 64	1 17 08
5	1 1 24 12	1 16 07 1	24 42 98	1 17 925

Observations for the Variation

1774	Zenith Distance O's U L	Azimuth of the O's Center	Variation West
24 April 7	74 0 5	S 87 37 $\frac{1}{2}$ E	21 59 10
	73 0 40	88 47 $\frac{1}{2}$	
	72 15 32	S 89 30 E	21 30 00
	71 46 27	90 0	
8	71 13 10	91 0	21 27 46
	70 29 42	S 86 42 $\frac{1}{2}$ R	
	75 10 23	88 12 $\frac{1}{2}$	21 25 50
	73 16 26	89 0	
	71 55 12	N 46 35 W	21 35 1
	72 43 31	47 17 $\frac{1}{2}$	
	73 13 12	48 30	
The mean is			West

Observations by Mr. Bayley, at the Cape of Good Hope, Continued.

Computations of the going of Mr. Arnold's Watch (No. 1).

1774.	Time of Comparison by the Clock.			Time of Comparison by Watch.			Watch slower than the Clock.			Watch loses on the Clock.		Interval between the Comparisons.		Watch loses on the Clock in 24 hours.		Clock loses on Syderial Time.		Watch loses on Syderial Time.		Watch loses on mean Time.	
	H	M	S	H	M	S	H	M	S	H	M	H	M	H	M	H	M	H	M	H	M
# March 23.	0	20	1	17	35	6	45	01	3	24	24	20	3	21,20	1	36,66	4	57,86	1	01,36	
u ——— 24.	0	43	25	17	56	6	48	25	3	19	23	40	3	21,80	1	36,35	4	58,15	1	01,65	
e ——— 25.	0	26	44	17	35	6	51	44	3	21	23	39	3	23,94	1	36,35	5	00,29	1	03,79	
b ——— 26.	0	9	5	17	14	6	55	5	3	20½	23	51	3	21,76	1	35,96	4	57,72	1	01,22	
o ——— 27.	0	3	25½	17	05	6	58	25½	3	25	24	09	3	23,74	1	35,96	4	59,70	1	03,20	
d ——— 28.	0	15	50½	17	14	7	1	50½	Clock removed												
s ——— 29.	0	46	05½	17	26	7	20	5½	3	41½	23	53	3	42,83	1	17,79	5	00,62	1	04,12	
h ——— 30.	0	42	47	17	19	7	23	47	3	42½	24	14	3	40,34	1	17,79	4	58,13	1	01,63	
u ——— 31.	1	0	29½	17	33	7	27	29½	3	39½	23	52	3	40,49	1	19,87	5	00,36	1	03,86	
e April 1.	0	56	8½	17	25	7	31	8½	3	36½	23	27	3	41,16	1	17,97	4	59,13	1	02,63	
b ——— 2.	0	26	45	16	52	7	34	45	3	46	24	24	3	42,28	1	17,97	5	00,25	1	03,75	
o ——— 3.	0	54	31	17	16	7	38	31	3	49	24	33	3	44,09	1	17,97	5	02,06	1	05,56	
d ——— 4.	1	31	20	17	49	7	42	20	3	40½	23	41	3	43,44	1	17,40	5	00,84	1	04,34	
s ——— 5.	1	16	0½	17	30	7	46	0½	3	44½	23	55	3	45,02	1	17,44	5	02,46	1	05,96	
h ——— 6.	1	14	44½	17	25	7	49	44½	3	42½	23	40	3	45,34	1	17,08	5	02,42	1	05,92	
u ——— 7.	0	58	27	17	5	7	53	27	3	40	23	30	3	44,44	1	17,08	5	01,52	1	05,02	
e ——— 8.	0	32	7	16	35	7	57	7	3	52	24	45	3	45,23	1	17,08	5	02,31	1	05,81	
b ——— 9.	1	20	59	17	20	8	0	59	3	38	23	23	3	43,53	1	17,08	5	00,61	1	04,11	
o ——— 10.	0	47	37	16	43	8	4	37													
Mean rate of the Watch																	1	3,76			

Meridian Zenith Distances of the Sun and Stars for the Latitude of the Place.

1774.	Zenith Distances.				Exterior Arch reduced.	Barom.	Therm.	Latitude.	Phenomena.							
	Interior Arch.		Exterior Arch.													
	°	'	G. S. V.	+	°	'	°	'								
☉ March 25.	36	6	40						☉'s L. L.							
	35	34	20	37	3	24	25	35	34	24	30,00	72	33	54	52½	☉'s U. L.
☽ — 29.	37	40	30													☉'s U. L.
	37	8	0	39	2	14	0	37	8	18	30,15	66	33	54	29	☉'s L. L.
☿ — 30.	23	56	0	25	2	3	19	23	56	0	29,97	60	33	55	2½	Spica ♌.
☿ April 1.	27	54	23	29	3	2	13	21	54	42	30,01	57½	33	55	55½	α } Crucis.
	24	30	42	26	0	19	0	24	30	51	30,01	57½	33	55	57½	β }
☉ — 3.	39	36	15													☉'s U. L.
	39	4	0	41	2	21	18	39	3	54	30,08	66	33	55	14	☉'s L. L.

Observations by Mr. Bayley, at the Cape of Good Hope, Continued.

Lunar Observations for the Longitude.

1774.	Time by the Clock.	Apparent Time.	Zenith Distance D's L. L.	Distance from ☉ or *.	Barom.	Therm.		Longitude East.	
	H "	H "	° "	° "		In Fenc's	Out	° ' "	
March 29.	12 35 54	12 11 16	34 16 10	69 23 40	30,10	59½	57	18 17 0	☉ and Regulus.
	40 34		33 31 50	25 0					
	44 3		33 0 27	25 30					
	47 31		32 29 7	26 42					
	51 40		31 52 40	27 45					
	54 22		31 30 0	29 45					
				— 6 30	Errors of the Quadrant.				
	13 0 46	12 33 46	30 36 0	31 45 10	30,10	59½	57	18 24 25	☉ and Antares.
	4 8		30 8 30	43 15					
	6 47		29 48 20	41 45					
	9 11		29 30 0	41 05					
	12 40		29 3 44	40 10					
	15 47		28 41 22	39 0					
				— 6 30	Errors of the Quadrant.				
April 1.	21 16 19	20 41 18	D's U.L. 52 52 38	108 39 30	30,02	68	68	18 29 15	☉ and ☽.
	20 01		53 36 42	37 40					
	22 33		54 7 30	36 47					
	24 51		54 35 27	35 30					
	27 18		55 04 40	34 37					
	29 55		55 36 4	33 10					
	21 32 37	20 56 19	56 9 50	108 32 12	30,02	68	68	18 33 22	☉ and ☉.
	35 16		56 40 0	30 50					
	37 36		57 9 42	30 0					
	39 30		57 31 15	29 30					
	41 41		57 57 27	28 10					
	44 31		58 31 18	26 47					
				— 4 10	Errors of the Quadrant.				
	b —	2. 21 36 37	20 57 2	44 42 33	95 10 0	30,06	66½	67	18 21 30
39 37		45 18 20		8 10					
41 49		45 44 22		6 30					
43 52		46 9 0		6 0					
46 5		46 35 47		5 0					
				— 4 10	Errors of the Quadrant.				

Observations by Mr Bayley, at the Cape of Good Hope, Continued

Lunar Observations for the Longitude

1774	Time by the Clock		Apparent Time	Zenith Distance D S U L	Distance of the O and D s Limbs	Barom	Therm		Longitude East	
	H	M					In Tent.	Out		
h April 2	21	48 10	21 06 16 $\frac{1}{2}$	47 0 37	95 4 30	30,06	66 $\frac{1}{2}$	67	18 13 39	O and D
		49 58		47 22 0	3 20					
		51 34		47 41 25	3 0					
		53 42		48 7 0	1 40					
D — 4	21	49 57	21 7 30 $\frac{1}{2}$	27 17 42	68 49 50	30,0	61	66	18 18 0	O and D
		53 02		27 48 0	49 4					
		55 33		28 12 10	47 30					
		58 08		28 37 37	47 0					
	22	0 48	21 21 34 $\frac{1}{2}$	29 3 15	46 28	30,0	61	66	18 24 10	O and D
		3 10		29 28 20	45 47					
	22	5 20		29 50 30	44 40					
		7 20		30 10 43	44 0					
		9 33	21 21 34 $\frac{1}{2}$	30 33 25	43 28	30,0	61	66	18 24 10	O and D
		11 55		30 58 17	42 20					
		14 16		31 3 27	41 27					
		16 46		31 49 30	41 0					

Observations on the Tides

1774	Height of the Water		Time by the Clock	Appa rent Time	Remarks	1774	Height of the Water		Time by the Clock	Appa rent Time	Remarks
	F	I					F	I			
h April 9	2	4	20 20	20 24,0	Low Water	h April 9	2	1 $\frac{1}{2}$	21 40	2 26,0	High Water
	2	3	20 25				2	2 $\frac{1}{2}$	21 45		
	2	2	20 35				2	3	21 50		
	2	1 $\frac{1}{2}$	20 40				2	4	21 55		
	2	1 $\frac{1}{2}$	20 50			O — 10	1	4	3 1		
	2	2 $\frac{1}{2}$	21 0				1	4 $\frac{1}{2}$	3 5		
	2	1 $\frac{1}{2}$	21 10				1	5	3 10		
	2	0 $\frac{1}{2}$	21 20				1	5	3 15		
	2	0 $\frac{1}{2}$	21 25				1	5	3 20		
	2	0 $\frac{1}{2}$	21 30				1	5 $\frac{1}{2}$	3 25		
	2	0 $\frac{1}{2}$	21 35				1	5 $\frac{1}{2}$	3 30		

Observations by Mr. Bayley, at the Cape of Good Hope, Continued.

Observations on the Tides.

1774.	Height of the Water.		Time by the Clock.		Remarks.	1774.	Height of the Water.		Time by the Clock.		Remarks.
	F.	I.	H.	H.			F.	I.	H.	H.	
☉ April 10.	1	5 $\frac{1}{2}$	3	35		☉ April 10.	1	4	3	55	
	1	5	3	40			1	3 $\frac{1}{2}$	4	0	
	1	4 $\frac{3}{4}$	3	45			1	2 $\frac{1}{2}$	4	5	
	1	4 $\frac{1}{2}$	3	50			1	2	4	10	

The above Observations were made in the same manner as those which Mr. Bayley made at New Zealand and Otaheite; but it is to be noted, that the \odot , or beginning of the divisions of his instrument, was placed five feet seven inches higher at the time of high water, than it was at low; from which quantity, if seven inches, the difference of the heights of high and low water, by the instrument, be subtracted, there will remain five feet for the quantity which the tide flowed on this day.

Observations made on the Island Ohitahoo, one of the Marquesas.

Observations for the Latitude.

1774.	°	'	
☉ April 9.	35	18	Supplement to the double altitude of the \odot 's L. L. Error of the Quadrant, $1\frac{1}{4}$ to be added.
☉ — 10.	36	3	Ditto. Error of the Quadrant, $1' 50''$ to be added.

The first of these Observations gives $9^{\circ} 55'\frac{1}{4}$ South for the Latitude; and the latter $9^{\circ} 55'\frac{3}{4}$. They were taken from a quicksilver horizon with a Hadley's Sextant, and by the back Observation.

Observations made on the Island Ohitahoo, one of the Marquesas, Continued

Observations for the Dip of the Magnetic Needle's South End

1774	Face of the Instrument		Face of the Instrument		Face of the Instrument	
	East.	West	East	West	East	West
	19 30	19 15	18 30	19 20	11 30	11 20
	19 45	18 13	17 50	19 30	11 40	11 3
	17 30	17 10	15 50	19 40		
	18 0	17 45	15 40	19 0		
	18 05	18 05	16 0	19 0		
	18 10	18 15	15 50	19 05		

The above Observations were made on three different days, the guard not staying long enough on shore to permit me to take more at one time, nor even to balance the Needle with more accuracy. I imagined that I had changed the Poles of the Needle between every day's Observations; but the near agreement which is between the first and second and the great disagreement between these and the Observations of the third day, incline me to believe that I made some mistake, and did not actually change them the first time.

Observations on the Tides

The high surf and small time that I had an opportunity of being on shore, rendered it impossible for me to make either very accurate or very regular Observations of this kind; but I gathered, in the best manner I could, that it was high water on 2 April 8, 1774, about one o'clock in the afternoon, and that it had fallen about $3\frac{1}{2}$ feet at seven o'clock, when I went on board, and I believe it was near, if not quite, low water. I got no Observations on the 9th; but on the 10th it was low water about nine in the morning, and high water about three in the afternoon, certainly not sooner, and the water flowed nearly four feet. It was low water on the morning the 11th, about 10 o'clock, and the water ebbed out, from the last night's tide, about four feet. It will readily be understood, that too much stress must not be laid on these Observations when I declare that the surf generally broke on the shore as high as myself.

I had no Observations for determining the Longitude of this place while here, except by the watch; but by the mean of a great many taken, some before we arrived, and others after we left the place, and reduced very carefully by the watch, it appeared to be $220^{\circ} 51\frac{1}{2}$ East.

Observations made on Point Venus, in Otaheite.

1774.	Equal Altitudes. Times by the Clock B.			Zenith Distance.	Time of apparent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
	H	"	"	o	"	H
2 April 22.	50 31	21 52 27	56 46	72	0 0	o's U. L. o's L. L. } Easterly. o's U. L. o's L. L.
	52 53 1/2	54 50 1/2	4 11	45	0 0	
	59 26	0 1 47	7 7			
	2 20	4 45				
23.	36 54	4 34 31	32 10	45	0 0	o's L. L. o's U. L. } Westerly. o's L. L. o's U. L.
	39 48	37 26	35 06 1/2	72	0 0	
	46 22	6 44 24	42 27 1/2			
	48 45	46 48	44 51			
25.	33 29	23 35 39	37 52	52	0 0	o's U. L. o's L. L. } Easterly. o's U. L. o's L. L.
	36 07 1/2	38 24	40 35	49	40 0	
	45 20	23 47 35	49 49 1/2			
	48 05	50 21	52 36			
26.	5 32	5 3 16	0 59 1/2	49	40 0	o's L. L. o's U. L. } Westerly. o's L. L. o's U. L.
	8 19	6 04	3 48 1/2	52	0 0	
	17 24 1/2	5 15 11 1/2	13 0 1/2	70	40 0	
	20 09	17 55 1/2	15 44 1/2	51	0 0	
	8 28 1/2	22 10 27 1/2	12 26 1/2			o's U. L. o's L. L. } Easterly. o's U. L. o's L. L.
	10 54 1/2	12 53 1/2	14 52			
	41 52	23 4 1/2 6 1/2	46 20 1/2	51	0 0	
	44 37	46 51 1/2	49 7			
27.	13 49	5 11 34 1/2		51	0 0	o's L. L. o's U. L. } Westerly. o's L. L. o's U. L.
	16 33 1/2	14 20	12 6 1/2	70	40 0	
	47 32 1/2	6 45 34	43 37	55	40 0	
		47 59	46 03			
28.	25 01	23 27 10 1/2	29 19	55	40 0	o's U. L. o's L. L. } Easterly.
	27 40	29 50	31 59 1/2			
29.	40 14	5 38 03	35 53	55	40 0	o's L. L. o's U. L. } Westerly. o's U. L. o's L. L. } Easterly.
	42 52	40 46	38 36	64	20 0	
	46 38	22 48 42 1/2	50 43	47	40 0	
		51 12 1/2	53 14 1/2			
	9 34 1/2	0 11 58 1/2	14 20 1/2			o's U. L. o's L. L.
	12 31 1/2	0 14 55 1/2	17 20 1/2			
30.	0 6 1/2	4 57 42	55 18	47	40 0	o's L. L. o's U. L. } Westerly. o's L. L. o's U. L.
	03 5	5 0 40	58 17 1/2	64	20 0	
	23 34	6 21 32	19 30	51	0 0	
	26 06 1/2	24 04	22 0 1/2			
	54 17 1/2	23 56 36	58 53			o's U. L. o's L. L. } Easterly.
	57 06	59 25	1 41 1/2			

Observations made on Point Venus, in Otaheite, Continued

1774	Equal Altitudes Time by the Clock B			Zenith Distances	Time of apparent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
		H			H	
O May 1	18 28 ¹	5 16 12	13 54	51 0 0	2 37 54,68	O's L L } Westerly O's U L }
	21 18 ¹	19 1	16 44 ¹			
D — 2	47 11 ¹	23 49 28 ¹	51 43	53 40 0	2 42 46,73	O's U L } Westerly O's L L }
	49 59	52 14 ¹	54 29			
J — 3	35 21 ¹	5 33 06	30 51	53 40 0	2 45 14,18	O's L L } Westerly O's U L }
	38 08	35 53 ¹	33 39			
	54 51	22 56 56	59 0	65 0 0	2 50 10,05	O's U L } Westerly O's L L }
	57 26	59 30	1 33			
	33 37 ¹	23 35 48 ¹	37 59	57 0 0	2 52 39,15	O's L L } Westerly O's U L }
	36 19	38 30	40 42			
E — 4	53 56	5 51 44	49 32	57 0 0	2 55 08,38	O's L L } Westerly O's U L }
	56 38	54 25	52 14			
	32 53	6 30 46 ¹		65 0 0	2 55 08,38	O's L L } Westerly O's U L }
	35 25	33 21	31 18			
U — 5	38 29	23 40 41	42 52 ¹	57 20 0	2 55 08,38	O's L L } Westerly O's U L }
	41 11 ¹	43 24	45 36			
	48 37	23 50 52 ¹	53 7	55 20 0	2 55 08,38	O's L L } Westerly O's U L }
	51 23	53 38 ¹	55 54			
F — 6	48 43 ¹	5 46 28 ¹	44 14 ¹	55 20 0	2 55 08,38	O's L L } Westerly O's U L }
	51 29 ¹	49 14	47 0			
	58 56	5 56 43 ¹	54 31	57 20 0	2 55 08,38	O's L L } Westerly O's U L }
	1 39	59 27 ¹	57 14 ¹			
	0 59 ¹	23 3 6	5 10	65 40 0	2 55 08,38	O's L L } Westerly O's U L }
	3 35 ¹	5 40 ¹	7 44			
	45 8	23 47 22	49 35	56 40 0	2 55 08,38	O's L L } Westerly O's U L }
	47 51 ¹	50 06	52 20			
H — 7	57 13	5 55 0		56 40 0	2 55 08,38	O's L L } Westerly O's U L }
	59 58 ¹	57 45 ¹	55 32			
	41 31 ¹	6	37 20 ¹	65 40 0	2 55 08,38	O's L L } Westerly O's U L }
		6 42 0	39 56			
		23 27 15 ¹		61 20 0	2 55 08,38	O's L L } Westerly O's U L }
	27 44					
	31 41	23 33 52 ¹	36 02	60 0 0	2 55 08,38	O's L L } Westerly O's U L }
	34 21	36 32 ¹	38 40 ¹			
O — 8	15 44	6 13 32 ¹	11 22	60 0 0	2 55 08,38	O's L L } Westerly O's U L }
	18 24	16 14 ¹	14 04			

Observations made on Point Venus, in Otaheite, Continued.

1774.	Equal Altitudes. Times by the Clock B.			Zenith Distance.	Time of apparent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
☉ May 8.	22 18 $\frac{1}{2}$			61 20 0		☉'s L. L. } Westerly. ☉'s U. L. }
	38 13 $\frac{1}{2}$	6 22 48 $\frac{1}{2}$	42 34	59 20 0		☉'s U. L. } ☉'s L. L. } Easterly.
	40 54 $\frac{1}{2}$	43 6	45 18	56 40 0		☉'s U. L. } ☉'s L. L. }
	51 44 $\frac{1}{2}$	23 53 58	56 13			
	54 29	56 44	59 0		2 57 39,25	
☾ — 9.	0 37	5 58 22	56 6 $\frac{1}{2}$	56 40 0		☉'s L. L. } Westerly. ☉'s U. L. }
	3 23	6 1 9	58 55	59 20 0		☉'s L. L. } ☉'s U. L. }
	14 11 $\frac{1}{2}$	6 11 59	9 49			
	16 53		12 31 $\frac{1}{2}$			

1774.	Equal Altitudes. Times by the Watch K.			Zenith Distance.	Time of apparent Noon by the Watch.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
☾ April 22.	33 33	8 35 53 $\frac{1}{2}$	38 16 $\frac{1}{2}$	45 0 0		☉'s U. L. } Easterly: ☉'s L. L. }
☾ — 23.	36 26	38 50 $\frac{1}{2}$	41 13		10 53 34,72	☉'s L. L. } Westerly. ☉'s U. L. }
	10 32 $\frac{1}{2}$	13 8 11	5 49	45 0 0		☉'s U. L. } Easterly. ☉'s L. L. }
☾ — 25.	13 26 $\frac{1}{2}$	11 5	8 45	49 40 0		
	12 20	8 14 34 $\frac{1}{2}$	16 49		10 53 39,55	☉'s L. L. } Westerly. ☉'s U. L. }
☾ — 26.	15 05	17 20 $\frac{1}{2}$	19 36	55 40 0		☉'s U. L. } Easterly. ☉'s L. L. }
	32 0	13 29 45	27 28 $\frac{1}{2}$	49 40 0		
☾ — 28.	34 47	32 32	30 17	55 40 0		☉'s L. L. } Westerly. ☉'s U. L. }
	45 2 $\frac{1}{2}$	7 47 12	49 20		10 53 46,57	☉'s U. L. } Easterly. ☉'s L. L. }
☾ — 29.	47 41 $\frac{1}{2}$	49 51	52 0 $\frac{1}{2}$			
	59 39 $\frac{1}{2}$	13 57 29	55 18 $\frac{1}{2}$	55 40 0		☉'s L. L. } Westerly. ☉'s U. L. }
	2 17	14 0 10	58 01	64 20 0		☉'s U. L. } Easterly. ☉'s L. L. }
	4 22 $\frac{1}{2}$	7 6 27	8 27 $\frac{1}{2}$		10 53 51,15	☉'s L. L. } Westerly. ☉'s U. L. }
☾ — 30.		8 57	10 58			☉'s U. L. } Easterly. ☉'s L. L. }
	40 34	14 38 33	36 30	64 20 0		
	43 7	41 04	39 01 $\frac{1}{2}$	51 0 0		☉'s L. L. } Westerly. ☉'s U. L. }
	10 32 $\frac{1}{2}$	8 12 51	15 08		10 53 53,68	☉'s U. L. } Easterly. ☉'s L. L. }
☉ May 1.	13 21	15 38	17 55 $\frac{1}{2}$			
	34 12	13 31 55	29 38	51 0 0		☉'s L. L. } Westerly. ☉'s U. L. }
	37 2	34 44	32 28 $\frac{1}{2}$			

Observations made on Point Venus, in Otaheite, Continued

1774	Equal Altitudes Times by the Watch K			Zenith Distance	Time of apparent Noon by the Watch	Phenomena and Remark
	Lower Wire	Middle Wire	Upper Wire			
		H		°	II	
♂ May 3	4 7 6 41 42 49½ 45 31	7 6 12 8 45 7 45 0½ 47 42	8 15 10 48 47 11 49 54	65 0 0 57 0 0		O S U I } Easterly O S L I } O S U I } O S L I }
♂ — 4	2 31 5 13 41 24 43 55 42 56½ 45 38½ 53 3 55 49	14 0 19 3 0 14 39 18½ 41 51½ 7 45 8 47 50½ 7 55 19 58 04½	58 08 0 49½ 39 49 47 19½ 50 03 57 33 0 19½	57 0 0 65 0 0 57 20 0 55 20 0	10 54 7.56	O S I I } O S U L } Westerly O S L L } O S U I } O S L I } O S U L } Easterly O S I L }
♀ — 6	52 34½ 55 20 2 46 5 28½ 47 12 49 55	13 50 20 53 5½ 14 0 33½ 3 17½ 7 49 25 52 9½	48 6 50 51½ 58 21 1 4½ 51 38½ 54 25½	55 20 0 57 20 0 56 40 0	10 54 18.87	O S I I } O S U L } Westerly O S L L } O S U L } O S L L } Easterly
♀ — 7	58 40½ 1 25 31 26 34 5	13 56 27½ 59 12½ 7 33 36½ 36 16½	56 59½ 35 46 38 27	56 40 0 60 0 0	10 54 24.69	O S L I } O S U L } Westerly O S U L } Easterly
♂ — 8	14 48½ 17 28 38 14½ 49 03½ 51 47½	14 12 37½ 15 19 7 37 45 40 26 7 51 17 54 2½	10 27 13 8½ 39 54 42 37½ 53 31½ 56 18½	60 0 0 59 20 0 56 40 0	10 54 33.19	O S L I } O S U L } Westerly O S U L } O S L L } Easterly O S U L }
♂ — 9	57 19½ 0 5 10 53½ 13 34	13 55 5 57 51½ 14 8 40½	52 49½ 55 38 6 29½ 9 12	56 40 0 59 20 0	10 54 39.74	O S L L } O S U L } Westerly O S L L } O S U L }

The Clock was fixed up in the usual manner, and the pendulum, in general, while here, vibrated 1st 35 each way from the perpendicular

Observations made at Point Venus, in Otaheite, Continued.

1774.	Meridian Zenith Distances.				Exterior Arch reduced.	Barom. Inches.	Thermom.		Phenomena and Remarks.
	Interior Arch.	Exterior Arch.					In Tent	Out.	
		G. S. V.	+	"					
2 May 4.	33 6 25	35 1 9	5		33 6 51	30,03	88 $\frac{1}{2}$	93	○'s U. L.
	33 38 20	35 3 17	9		33 38 33				○'s L. L.
4 — 5.	33 56 7	36 0 26	24		33 56 49 $\frac{1}{2}$	30,02	87 $\frac{1}{2}$	94 $\frac{1}{2}$	○'s L. L.
	33 23 28	35 2 15	13		32 23 41				○'s U. L.
	39 55 40	42 2 12	18		39 56 12	30,02	72	72 $\frac{1}{2}$	α Pavonis.
	61 56 30	66 0 9	16		61 56 43				α Cygni.
8 — 6.	33 40 25	35 3 21	20		33 40 30	30,02	90	97	○'s U. L.
	34 12 15	36 1 30	12		34 12 27				○'s L. L.
	39 55 55	42 2 13	4		39 56 24	30,03	71 $\frac{1}{2}$	72 $\frac{1}{2}$	α Pavonis.
	61 56 37	66 0 10	0		61 56 54				α Cygni.
5 — 7.	34 29 38	36 3 6	15		34 30 4	30,03	88 $\frac{1}{2}$	91 $\frac{1}{2}$	○'s L. L.
	33 57 8	36 0 28	20		33 57 38				○'s U. L.
	61 17 7	54 2 27	12		51 17 29 $\frac{1}{2}$	30,03	80 $\frac{1}{2}$	81	β Navis.
	30 32 52	32 2 11	18		30 33 15 $\frac{1}{2}$	30,03	78	79 $\frac{1}{2}$	Regulus.
	39 55 57	42 2 13	10		39 56 30	30,03	69 $\frac{1}{2}$	70 $\frac{1}{2}$	α Pavonis.
	61 56 45	66 0 10	8		61 57 2				α Cygni.
9 — 9.	34 30 0	36 3 7	5		34 30 21	30,03	84	91	○'s U. L.
	35 02 22 $\frac{1}{2}$	37 1 16	20		35 2 40 $\frac{1}{2}$				○'s L. L.
	51 17 25	54 2 28	7		51 18 2 $\frac{1}{2}$	30,03	76 $\frac{1}{2}$	77 $\frac{1}{2}$	β Navis.
	30 32 42	32 2 11	8		30 33 5 $\frac{1}{2}$	30,03	75	76	Regulus.
	38 27 15	41 0 3	10		38 27 44				γ Leonis.
	8 24 55	8 3 29	25		8 25 21	30,03	73	72 $\frac{1}{2}$	Antares.
8 — 10.	30 32 37	32 2 10	12		30 32 43	30,03	73 $\frac{1}{2}$	77 $\frac{1}{2}$	Regulus.
	38 27 12	41 0 3	15		38 27 49				γ Leonis.

For the Error of the Line of Collimation of the Quadrant.

1774.	Zenith Distance of the Upper Hole. Quadrant direct.				Zenith Distance of the Lower Hole. Quadrant inverted.				Errors.	
	Interior Arch.		Exterior Arch.		Interior Arch.		Exterior Arch.		Interior Arch.	Exter. Arch.
	° ' "	G. S. V.	" +	"	° ' "	G. S. V.	" +	"	"	V. "
May 3.	89 36 28	95 2 11	5		90 24 12	96 1 23	15			
Evening.	32	11	3		0	23	4			
	25	10	20		0	23	3			
	30	11	6		04	23	7			
	89 35 55	95 2 9	15		90 25 12	96 1 25	0			
Morning.	50	9	10		25 5	25	12			
	50	9	8		25 5	25	20			
	48	9	10		25 0	25	10			
	40	9	5		24 55	25	0			
	45	9	7		24 55	25	0			

Observations made on Point Venus, in Otaheite, Continued

For the Error of the Line of Collimation of the Quadrant

1773	Zenith Distance of the Upper Hole Quadrant direct.				Zenith Distance of the Lower Hole. Quadrant inverted				Errors			
	Interior Arch.		Exterior Arch		Interior Arch		Exterior Arch		Interior Arch	Exter Arch		
	°	'	G	S V	+	"	G	S V	+	"		V
May 10 Evening	89	35 50	95	2 10	0	90	24 48	96	1 24	18	-25½	-1 10
		36 5		9	25		24 52		24	22		
		36 10		10	5		24 55		25	0		
		36 0		10	8		24 50		24	18		
		35 52		9	23							
Morning	89	39 5	95	2 17	0	90	21 30	96	1 17	6	-20	-1 6
		39 5		17	3		35		18	0		
		39 0		16	18		40		17	22		
		39 10		16	25		35		17	10		
		39 0		16	20		45		17	20		
		38 55		16	18		40		17	12		
										-21½	-33½	Mean

The Latitude of Point Venus, determined by
Observations made with Hadley's Quadrant

1774.	Altitude of O's L L	Declination	Latitude S
h April 23	59 30 $\frac{1}{2}$	12 26 54 N	17 30 41
o — 24	59 11 $\frac{1}{2}$	12 46 48	29 47
d — 26	58 51 $\frac{1}{2}$	13 25 59	30 46
d — 27	58 32 $\frac{1}{2}$	13 45 14	30 31
d — 29	57 54 $\frac{1}{2}$	14 23 24	29 16
h — 30	57 36 $\frac{1}{2}$	14 41 38	29 4
o May 1	57 18 $\frac{1}{2}$	14 59 58	28 59
d — 2	57 01	15 18 2	28 9
d — 3	56 42 $\frac{1}{2}$	15 35 52	29 48
o — 8	55 17	17 1 6 $\frac{1}{2}$	30 5
d — 10	54 46 $\frac{1}{2}$	17 33 16	28 20
The mean of all is			17 29 35

For the Dip of the Needle's South End

Face of the Instru ment		Face of the Instru ment	
East	West	East	West
31 10	31 05	31 0	27 50
31 10	29 45	28 30	27 40
31 30	30 25	28 40	27 45
30 45	33 0	31 0	28 10
30 30	33 0	29 47½	27 51½
30 10	31 0	27 51½	
30 40	32 10	30 46½	
30 10	31 40	31 30½	
30 45½	31 30½	29 58½	Mean Dip

* * The poles were changed between the observations put down in the two first, and those put down in the two last columns.

Observations at Point Venus, in Otaheite, Continued.

Lunar Observations for the Longitude of the Place.

1774.	Time by the Clock.	Apparent Time.	Zenith Dis- tance of the ☉ or *.	Altitude, or Zenith Distance of the ☽.	Distance of the ☽'s L. from the ☉ or *.	Barom.	Therm.	Longitude East.	Remarks, &c.
H	" "	H	" "	" "	" "			" "	
♂ April 25.	12 39 33 41 51 44 31 46 31 50 02 52 52		49 01½	18 11½ U. L. 17 41½ 17 14½ 16 56½ 16 19 15 47 — 21''½	53 55½ 53 56 53 57 53 58½ 53 59½ 54 0 — 2' 36"			30,05 72½ 210 54 06	♂ and Re- gulus, west of her.
	13 10 35 13 16 16 41 21 1 23 7 26 41		44 57½	13 23½ 13 04 12 39½ 12 16½ 12 11½ 11 57½	46 23 23 22 20½ 18½ 17½			30,05 72½ 210 18 15	♂ and An- tares, east of her.
♂ — 26.	11 55 54 11 58 32 12 0 43 12 02 41 12 04 21 12 06 24		41 14½	37 59½ U. L. 37 22½ 36 52½ 36 25 36 01½ 35 32½ — 21''½	68 19½ 20½ 22 22½ 23 23½ + 2' 35"			30,07 73½ 211 05 0	♂ and Re- gulus, west of her.
	12 16 08 18 56 20 22 22 05 23 56 27 56		57 28½	33 18½ 32 39½ 32 20 31 56½ 31 31½ 30 55½	31 52 51 50½ 49½ 49 47½			30,07 73½ 210 29 15	♂ and An- tares, east of her.
♂ — 27.	11 40 44 43 01 45 02 46 25		25 37½	54 59½ L. L. 54 29½ 54 01½ 53 41½ — 21''½	30 31½ 31½ 31½ 34½ + 2' 39"			30,08 77 210 4 9	♂ and Spl. or, west of her.
	15 9 28 12 31 54 33 46 36 0 37 55 39 44	12 38 53,4	Immerged behind the ☽'s bright Limb.	67 55½ U. L. 67 31 67 02½ 66 37½ 66 14 — 21''½	133 25 24½ 23½ 22½ 21½ + 1' 2"			30,02 81 210 40 7½	Very certain.
♂ — 29.				23 12 U. L. 22 53 22 23 21 53 21 31 + 1' 2"	133 25 24½ 23½ 22½ 21½ + 1' 8"			30,02 81 210 40 7½	♂ and ☽ by the back ob- servations.
♂ — 30.	19 8 54 10 58 12 29 14 4 15 26 16 49 18 18 19 43 21 15		41 3½	6 05½ U. L. 6 31 6 51½ 7 13 7 33 7 51½ 8 11½ 8 30½ 8 52 — 21''½	33 29 29 30 30½ 30½ 31½ 31½ 32½ 32½ + 2' 50"			30,02 76½ 210 3 45	♂ and An- tares, west of her.
									Error of the Quadrants.

Observations made at Point Venus, in Otaheite, Continued

Lunar Observations for the Longitude of the Place

1774	Time by the Clock	Apparent Time	Zenith Distance of the ☉ or *	Altitude or Zenith Distance of the ☾	Distance of the ☉ & L. from the ☉ or *	Barom	Therm	Longitude	Remark
	H	H	°	°					
h April 30	19 24 47			9 41 U L	70 47				
	26 43			10 08	46				
	28 08			10 37½	45½				
	29 21			10 45½	45				
	30 46		59 53½	11 5	45				
	32 25			11 27	44	30 02	76°	210 17 56	☉ and ☾ L. just east of her
	34 4			11 50½	44				
	36 30			12 24½	43				
	38 13			12 40½	42½				
	39 53			13 12½	41½				
	21 12 0		72 42½ U L	41 47 U L	119 49½				
	14 5		72 15½	41 17	49	30 03	79	210 8	☉ and ☾
	15 25		71 58½	40 57	48				
	16 26		71 44½	40 45	48				
	22 21 24		70 39½ U L	+ 1 32 U L	+ 2 50'	Errors of the Quadrants			
	22 33		70 24½	39 18	45½				
	23 35		70 10½	39 7	44½	30 03	79	210 11 15	☉ and ☾ Errors as above
	24 35		69 58	38 53	44				
	26 14		69 16½	38 29	44				
☉ May 1	22 8 13		74 11½ L L	56 24	106 21				
	10 53		73 35	55 50	20				
	12 27		73 16	55 27	19½				
	14 02		72 55	55 5	18½				
	15 50		72 31½	54 42	17½				
	17 40		72 7	54 17	17	30 04	79	209 44 15	☉ and ☾
	19 19		71 45½	53 52	16½				
	20 51		71 25½	53 27	16½				
	22 46		71 0½	53 4	15½				
	24 30		70 37½	52 39	15				
	2 7 41		— 21 ½	+ 4 37 L L	+ 2 45	Errors of the Quadrants			
	10 15			22 15½ L L	61 30½				
	11 48			21 40½	30½				
	13 37			21 17½	31½				
	15 43			20 52½	32				
	17 26		42 0½	20 22	32½	30 04	74	210 18 30	☉ and ☾ Structures west of her
	20 0			20 0	33½				
	21 56			19 34	35½				
	24 5			18 57	34½				
	25 53			18 26	35				
22	33 56		69 47½ L L	— 21 U L	55½				
	37 39		68 59½	63 43½ U L	+ 2 20	Errors of the Quadrants			
	40 19		68 25½	62 48½	93 01				
	43 16		67 48	62 12½	93 0				
	46 1		67 12	61 32	92 59	30 04	82	209 45 18	☉ and ☾
			— 21 ½	60 53½	92 57½				
				+ 1 0	92 57½				
					+ 2 45	Errors of the Quadrants			

Observations made on Point Venus, in Otaheite, Continued.

Lunar Observations for the Longitude of the Place.

1774.	Time by the Clock.	Apparent Time.	Zenith Distance of the ☉ or ☿.	Altitude, or Zenith Distance of the ☽.	Distance of ☽'s L. from ☉ or ☿.	Barom.	Therm.	Longitude East.	Remarks.
3 May	19 38 21			28 44½ L. L.	75 21½				
	42 51			27 41	22½				
	45 27			27 58	23½				
	47 29			26 38½	24½				
	49 30		49 47½	26 9½	25½				
	51 38			25 40	25½	30,04 73		210 23 54	☽ and Antares, West of her.
	53 24			25 15½	26				
	55 20			24 49½	26½				
	57 10			24 24½	27½				
	58 53			24 0	28½				
				— 21½	+ 2' 54"	Errors of the Quadrant.			
	23 45 07		55 08½ U. L.	59 23 U. L.	79 46½				
	46 52		54 47½	59 03	46½				
	48 18		54 32½	58 44	45½	30,02 82		209 38 15	☉ and ☽.
	49 37		54 15½	58 23	45				
	50 52		54 01½	58 05	44½				
	52 08		53 46½	57 47	44½				
			— 21½	+ 3' 0"	+ 2' 48"	Errors of the Quadrant.			
	4 20 20 55			32 11½ L. L.	88 57½				
	23 0			31 44	88 58				
	24 24			31 26	88 58½				
	25 35			31 8	88 59½				
	26 53		58 32½	30 51½	89 0	30,03 76		210 21 45	☽ and Antares, West of her.
	28 17			30 33	89 0½				
	29 43			30 14	89 0½				
	30 55			29 57½	89 01½				
	32 15			29 39	89 01½				
	33 43			29 19	89 02				
				— 21½	+ 2' 37"	Errors of the Quadrant.			
	13 56 12½		53 38½ U. L.	67 37 U. L.	67 11½				
	13 58 41		53 10½	66 55½	67 10½				
	0 0 40		52 48	66 35½	67 9½	30,03 84½		210 18 0	☉ and ☽.
	0 1 37		52 26½	66 01½	67 9				
	0 4 42		52 01½	65 37	67 8½				
			— 21½	+ 3' 0"	+ 2' 33"	Errors of the Quadrant.			
4 — 5	19 25 14				55 33½				
	28 3				55½				
	30 5				55½				
	32 3				56				
	33 50		25 47½	56 31½	37	30,02 72		210 55 0	☽ and Aquilae, West of her.
	35 30				37½				
	37 15				38				
	39 18				38½				
	40 52				39½				
	42 34				39½				
					+ 2' 45"	Errors of the Quadrant.			
	0 12 50		51 8½ U. L.	71 38 U. L.	54 52				
	15 36		50 39½	71 6	51½				
	17 25		50 19½	70 47	50½	30,02 84		209 42 20	☉ and ☽.
	19 23		49 56½	70 27	50				
	21 30		49 34	70 9½	50				
	23 27		49 14	69 45	49½				
			— 21½	+ 4' 34"	+ 2' 47"	Errors of the Quadrant.			

Observations on Point Venus, in Otaheite, Continued

Lunar Observations for the Longitude of the Place

1774	Time by the Clock	Apparent Time.	Zenith Distance of the ☉ or *	Altitude, or Zenith Distance of the ☾	Distance of the ☾ & L from ☉ or *	Barom	Therm	Longitude East	Remarks
	H	H		°	° or "				
♀ May 6.	19 47 27			65 21 $\frac{1}{2}$ L. L.	66 58				
	49 25			64 55	66 58 $\frac{1}{2}$				
	50 43			64 36 $\frac{1}{2}$	66 59 $\frac{1}{2}$				
	51 57		26 01 $\frac{1}{2}$	64 20	67 0 $\frac{1}{2}$	30.03	72 $\frac{1}{2}$	210 43	☾ and * Aquilæ, West of her
	53 5			64 04 $\frac{1}{2}$	67 0 $\frac{1}{2}$				
	54 9			63 49 $\frac{1}{2}$	67 1				
	55 19			63 33 $\frac{1}{2}$	67 1 $\frac{1}{2}$				
	20 15 31			58 58 $\frac{1}{2}$	67 8				
	16 45			58 40 $\frac{1}{2}$	8 $\frac{1}{2}$				
	18 14			58 20 $\frac{1}{2}$	9				
	19 5		27 42 $\frac{1}{2}$	58 10	9 $\frac{1}{2}$	30.03	72 $\frac{1}{2}$	210 48	☾ and * Aquilæ, West of her
	20 1			57 56	10				
	21 0			57 42	10 $\frac{1}{2}$				
				— 21 $\frac{1}{2}$	+ 2 19	Errors of the Quadrant			
	0 9 54		52 20 U L	72 0 L L	42 55 $\frac{1}{2}$				
	12 9		51 53 $\frac{1}{2}$	72 02	54 $\frac{1}{2}$				
	13 30		51 40 $\frac{1}{2}$	72 0	54				
	15 14		51 21	71 58	53 $\frac{1}{2}$				
	16 35		51 05 $\frac{1}{2}$	71 55	54				
	17 54		50 58	71 49 $\frac{1}{2}$	53 $\frac{1}{2}$	30.03	86 $\frac{1}{2}$	209 59	☉ and ☾
	19 3		50 38	71 46	53				
	20 23		50 24 $\frac{1}{2}$	71 42	52 $\frac{1}{2}$				
	21 54		50 7	71 38	51 $\frac{1}{2}$				
	23 5		49 55	71 36	51 $\frac{1}{2}$				
			— 21 $\frac{1}{2}$	+ 3 0	+ 2 17	Errors of the Quadrant.			
♂ — 7	20 39 30			65 52 $\frac{1}{2}$ L. L.	78 37				
	40 35			65 38	38				
	41 36			65 24 $\frac{1}{2}$	38				
	42 40		30 31 $\frac{1}{2}$	65 9 $\frac{1}{2}$	38 $\frac{1}{2}$	30 03	71	211 0	☾ and * Aquilæ, West of her
	43 36			64 57	38 $\frac{1}{2}$				
	44 40			64 43	38 $\frac{1}{2}$				
				— 21 $\frac{1}{2}$	+ 2 57	Errors of the Quadrant.			

In the preceding Observations, where the objects are the Moon and a Star, the Star's true zenith distance is put down as it was computed; and the Moon's zenith distance was observed with the Astronomical Quadrant, except in the Observations of the Moon's distance from * Aquilæ, on May 5th, where both zenith distances are computed. Where the objects are the Moon and Sun, the Sun's zenith distance was observed with the Astronomical Quadrant, and the Moon's altitude with a Hadley's Sextant. In every instance, the true time was got from that shown by the Clock.

Observations on Point Venus, in Otaheite, Continued

Observations for the Variation of the Compass

1774.	Zenith Distance of the ☉ & L	Azimuth of the ☉ & center	Vari- ation East	1774.	Zenith Distance of the ☉ & L	Azimuth of the ☉ & center	Vari- ation East.
♂ April 26	73 24 40 U L	N 64 37 ¹ E		♂ May 2	81 27 10 L L	N 64 40 E	
	72 36 45	63 47 ¹	5 15 ¹		81 11 25	64 30	6 10 ¹
	71 55 35	63 10			80 31 5	64 10	
♂ — 28	74 55 20	N 64 12 ¹ E		♂ — 4	85 2 55 U L	N 77 40 W	
	73 56 55	63 22 ¹	5 26		85 34 30	77 47 ¹	5 57 ¹
	73 17 40	63 17 ¹			86 5 17	78 5	
♀ — 29	75 9 8 L L	N 74 40 W		♀ — 6	76 11 30 U L	N 61 50 E	
	75 47 7	74 52 ¹	5 29 ¹		75 45 55	61 40	5 23 ¹
	76 24 8	75 12 ¹			75 19 30	61 15	
	79 40 40	N 64 55 E		♂ — 7	83 26 30 L L	N 75 45 W	
	78 44 50	64 30	6 0 ¹		84 2 38	76 0	5 48
	78 25 0	64 15			84 29 40	76 17 ¹	
	75 55 30 U L	N 64 0 E			82 43 0 L L	N 62 25 E	
	39 25	63 25	5 48 ¹		81 56 0	63 0	6 25 ¹
	21 05	63 15			80 55 55	62 50	
♂ — 30.	78 26 50 L L	N 75 40 W			Alt. ☉ & L L		
	79 20 12	76 0	5 26 ¹		3 6 15	N 76 30 W	
	79 51 58	76 25			2 33 45	76 30	5 34 ¹
	80 48 30 U L	N 65 15 E.			2 8 30	76 40	
	80 13 30	65 10	5 49 ¹		7 33 30	N 74 50 W	
	79 43 30	65 02 ¹			7 4 0	75 10	6 10 ¹
☉ May 1	76 14 55 U L	N 75 20 W			6 35 30	75 22 ¹	
	76 40 5	75 15	5 57 ¹				
	77 8 30	75 25					
	80 29 35 L I	N 64 37 E					
	79 53 0	64 25	5 49 ¹				
	79 15 20	64 20					

1774	Time of apparent Noon by Clock	Syderial Time of apparent Noon	Clock before Syderial Time	Clock loss on Syderial Time
♂ April 23	2 19 43 8	2 2 15 76	17 28, 13	21 43
♂ — 26	2 26 55 03	2 13 31 18	13 23 85	21 33
♂ — 27	2 29 19 91	2 17 17 39	12 2 52	25 08
♀ — 29	2 34 03 57	2 24 51 21	9 12 36	22 37
♀ — 30.	2 36 28 90	2 28 38 91	7 49 90	22 52
☉ May 1	2 37 54 68	2 32 27 21	5 27 47	23 08
♂ — 3	2 42 46 73	2 40 05 42	2 41 31	22 50
♂ — 4	2 45 14 18	2 43 55 37	1 18 81	22, 91
			Clock slow	
♀ — 6	2 50 10, 05	2 51 37 07	1 27 02	22 61
♂ — 7	2 52 39 15	2 55 28 71	2 49 63	23 01
☉ — 8	2 55 08 38	2 59 21 0	4 12 69	22 03
♂ — 9	2 57 39 25	3 3 13 9	5 34 72	
Mean (rejecting the 30th of April) is				22 64

As I had reason when I went on shore at this place, to think I should not stay above two or three days, the Clock was first set up in the ship's tent; but on the 28th of April, finding that I was likely to stay longer, and that the Clock was liable to be disturbed, I removed the ship's tent, and erected the Observatory over the Clock as it stood

* The Clock seems here to have stopped exactly one minute I know not how to account for it, as I never left either the case or face of the Clock unlocked.

By taking the first and last day's Observations, the Clock's loss is 1 22¹, 68

Observations on Point Venus, in Otaheite, Continued

Observations on the Tides

the reef is not only of much greater extent, and of course the quantity of water thrown over greater, but also as there is only one opening, instead of two, for the discharge of the water that is thrown over. I may add likewise that the surf is, from whatever cause it may happen, generally much greater at Ulitea than at Otaheite. It is moreover evident, that if this be the cause, the Tides will be more sensible in or near the openings than farther within the reef. And so it appears to be from the Observations for Captain Cook and Mr Green tried them at the point A in the Map, and had only 10 or 12 inches at the Spring tides. Mr Bayley and myself tried them at the point B, and had 14 or 15 inches, a day or two before the change. And lastly, I founded across from the Observatory to the rock marked C in the Map, at high water and had between seven and eight feet water, and yet many of our people walked across it at low water to gather shells on the rock.

These were all the Experiments I was able to make for elucidating this affair, although I landed on Point Venus the second time, with a determined resolution to make some Experiments that might be decisive. But, after examining the coast both ways, as far as my other business would permit me to go, I found no place which was not sheltered by the reef in the same manner that Point Venus is, and of course liable to the same objections, or on which a surf did not break so great as to render it totally impossible to make any observations that would turn to the least account.

On the whole, I give it as my opinion, from the fullest conviction that the matter would allow of, that the absolute height of the Tides is the same as it is in other parts of this widely extended ocean, viz about three feet at the highest Spring tides, and about two feet at the neaps.

Observations on the Tides at Ohamaneno Harbour, in the Island of Ulitea

1774	Apparent Time		Height of the Tides		Remarks	The times of high and low water must not be too much relied on, as the small, and very slow rise of the water rendered it impossible to determine them with any accuracy. But the different heights of the water admitted of the most exact determination, the water having not the least motion at any time, so that one eighth of an inch was very discernible, and I am fully persuaded, from thence, that none of the numbers in the third column can err one-fourth of an inch.
	H	I	F	I		
May 25	23	10	—	—	High Water	
— 26	0	0	0	8 $\frac{1}{2}$	High Water	
— 27	19	0	—	—	Low Water	
— 28	1	0	0	7 $\frac{1}{2}$	High Water	
	20	30	—	—	Low Water	
— 29	1	55	0	7 $\frac{1}{2}$	High Water	
	21	0	—	—	Low Water	
— 30	2	30	0	7 $\frac{1}{2}$	High Water	
	21	30	—	—	Low Water	
— 31	3	30	0	7 $\frac{1}{2}$	High Water	

Observations at the Island of Tanna, one of the New Hebrides.

1774.	Equal Altitudes. Times by the Watch K.			Zenith Distances.	Time of apparent Noon by the Watch.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
1/2 August 6.	43 36 46 52	9 46 16 1/2 49 33 1/2	48 57 52 16 1/2	48 0 0		☉'s U. L. } Easterly. ☉'s L. L. }
☉ — 7.	6 58 1/2 10 12 1/2	14 4 16 7 34	1 34: 4 55	48 0 0	11 56 48,2	☉'s L. L. } Westerly. ☉'s U. L. }
☉ — 10.	6 54 12 54: 15 48:	9 6 24 1/2 9 13 9 15 17 1/2 18 10	8 43 11 32 1/2 17 39: 20 31 1/2	54 20 0 52 40 0		☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. } ☉'s L. L. }
☉ — 11.	38 40 1/2 41 35 47 36 1/2 41 48 44 56	14 — 14 39 12 14 45 17 48 8 9 44 23	33 56 36 51 1/2 42 59 45 49 1/2 46 58 50 9	52 40 0 54 20 0 47 20 0	11 57 8,16	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. }
☉ — 12.	12 54	14 7 5 1/2	7 42	47 20 0	11 57 13,42	☉'s L. L. } Westerly. ☉'s U. L. }
☉ — 14.	28 5 36 17: 39 21	9 27 33 9 30 31 9 38 50	30 0	49 40 0 47 40 0		☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. }
☉ — 15.	15 40 18 41 26 55 29 50	14 13 08 16 14 14 24 29 27 24	10 39 1/2 13 44 1/2 22 4 25 2	47 40 0 49 40 0	11 57 23,29	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. }
☉ — 16.	8 54 11 40 17 38 20 29	9 11 10 13 58 9 19 58 22 49	13 27 16 15 22 17 25 10	52 20 0 50 40 0		☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. } ☉'s L. L. }
☉ — 17.	34 40 37 31 43 29 1/2 46 16	14 32 19 1/2 35 11 14 41 11 44 0	30 0 32 53 38 53 1/2 41 44	50 40 0 52 20 0	11 57 27,58	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. }
☉ — 18.	12 4 14 51	9 14 21 17 8	16 37 19 26	51 20 0		☉'s U. L. } Easterly. ☉'s L. L. }
☉ — 19.	40 27 43 13 1/2	14 38 10 40 56	38 41 1/2	51 20 0	11 57 31,72	☉'s E. L. } Westerly. ☉'s U. L. }

Observations at the Island of Tanna, one of the New Hebrides, Continued

Observations for the Variation of the Compass

1774	Time by the Watch K		Azimuth of the S's Center		Variation East
	H	M	n	r	
August 8	6	41	17	N 65 10 E	6 7
		43	1	65 0	
		44	51	64 30	
		46	42	64 35	
— 9	16	43	40	N 75 55 W	6 49
		44	52	75 25	
		46	10	74 55	
		47	11	75 52	
— 14	7	48	18	N 58 0 E	8 4
		48	37	57 40	
		48	56	58 0	7 35
— 15	6	42	18	N 65 45 E	
		44	45	65 40	
		45	26	64 35	
— 18	6	44	5	N 66 0 E	7 34
		45	13	66 02	
		46	40	66 25	

Observations for the Dip of the Needle

1774	Face of the Instrument.	
	East	West
August 7	44 25	45 05
	43 05	46 30
	Changed the Poles	
	42 45	45 50
	44 0	46 30
	Changed the Poles	
	44 45	46 30
	44 35	44 20
	44 30	45 25
	44 40	45 50
— 17	45 0	43 10
	Changed the Poles	
	46 05	44 30
	44 15	43 15
	44 55	43 05
	Changed the Poles.	
	45 25	45 35
	46 10	46 40
	Changed the Poles	
	45 45	45 10
Mean	46 45	45 0
	45 15	45 50
	45 02	Dip of the Needle's S end

Observations at the Island of Tanna, one of the New Hebrides, Continued.

Lunar Observations for the Longitude.

1774	Time by the Watch K.		Apparent Time.	Zenith Distance of the Sun's U. L.	Distance of the Sun's L. from ☉ or ♀.	Error of the Quadrant.	Longitude East.	Remarks.
	H	M	H	M	M	M	M	
Aug. 15.	14	40	22½	46 22½	92 6			☉ and ♀'s Limbs. Barometer 29,97. Thermometer 81½. Dollond's Quadrant.
		41	58	46 0½	6½			
		43	20½	45 42½	6½			
		44	44	45 21	6½	+1 16	170 12 0	
		47	54½	44 39	8½			
		49	05	44 22½	9			
		50	31	44 2½	10			☉ and ♀. Barometer 29,97. Thermometer 81½. Ramsden's Quad.
	14	53	9	43 29½	92 11			
		54	41	43 7½	11½			
		55	46	42 52	11½	+1 58½	169 42 37	
		56	45	42 38½	12			
		58	8	42 19½	12½			
		59	32	41 59½	13½			♂ and Spica. Barometer 30,08. Thermometer 81. Cloudy. ♂ and α Aquilæ. Barometer 30,08. Thermometer 81. Very cloudy.
	18	32	39		36 6½			
		35	2		8½			
		35	51		8	+1 20	169 35 38	
		38	39		9½			
		39	4½		9			
	18	47	52		63 28			☉ and ♀. Barometer 30,07. Thermometer 79½. Ramsden's Quad.
		48	45		27½	+1 20	169 40 37	
		50	57		26½			
		52	37		26½			
	17.	15	21 26	62 6½	119 10½			
			24 3½	61 33½	12½			
			25 9	61 18½	12½			
			26 20	61 2½	13½			
			27 18	60 45½	14	+1 47½	169 53 15	
			28 52	60 28	14½			
			29 52½	60 13½	15			
			30 56	60 0½	15½			
			31 45	59 48½	16			Mean of all.
			32 52	59 33½	16½			
							169 48 49½	

Observations made at the Island of Tanna, one of the New Hebrides

Observations on the Tides

1774	Apparent Time	Height of the Tide	Remarks	1774	Apparent Time	Height of the Tide	Remarks
	H	F 1			H	F 1	
6 August 6	4 48		Time of high water estimated	4 August 18	5 58		Water returned to the first mark
23 14			The water at a mark	21 30			Low water by estimation
23 42			Low water by equal altitudes.	2 10			The water at a mark
7 1 10			The water returned to the mark	2 30			The water at a second mark
5 47	3 0		High water by estimation	3 50	3 5		High water by equal altitudes
20 45			Low water by estimation	5 15			Water returned to the latter mark
9 48			The water at a mark	5 25			Water returned to the first mark
18 0 1			The water at another mark				
2 55	3 01		High water by equal altitudes				
5 37			Water returned to the latter mark				

The high and low waters were marked on a post and the distance between these marks measured with a two feet rule

Computations of the going of Mr Kendall's Watch

1774	Time of apparent Noon by the Watch	Mean Time of apparent Noon.	Watch too slow for mean Time	Watch gains between the Observations	Watch gains each Day	If the gain between the first and last Observation be taken and divided by the number of days elapsed, the daily gain of the Watch on mean time will be 13,795 but if a mean of all the comparisons which can be formed out of the six days Observations be taken, the daily gain on mean time will be 13,938
	cl	H	H			
6 August 7	11 56 43 2	24 5 23 23	12 8 35 03	0 51 55	12 89	
11 11 57 08 16	4 51 64	7 43 48	0 14 58	14 58		
12 11 57 13 43	4 42 32	7 28 90	0 41 32	13 79		
15 11 57 23 19	4 10 82	6 47 53	0 27 97	13 98		
17 11 57 27 58	3 47 14	6 19 56	0 30 07	15 03		
19 11 57 31 74	3 21 21	5 49 49				
			Mean	14 054		

Observations for the Latitude of the Place

1774	Double Altitude of the o s L L			Latitude South	
6 Aug 7	107 24 0		Dollond's Quadrant	19 32 18	
8 9	108 31 30		Ditto	19 32 33	
10	109 7 10		Ramfden's ditto	19 32 7	
11	109 41 52		Ditto	19 32 25	
12	110 17 8		Dollond's ditto.	19 32 41	
15	113 11 0		Ditto	19 32 29	
16	113 48 45		Ramfden's ditto	19 32 25½	
			Mean Latitude	19 32 25½	South

Observations made on the Island Pudyoua, on the Coast of New Caledonia.

1774.	Equal Altitudes. Times by the Watch K.			Zenith Dis- tance.	Altitude of the ☉'s L. L. on the Meridian.	Time of appa- rent Noon by the Watch.	Remarks, &c.
	Lower Wire.	Middle Wire.	Upper Wire.				
Sept. 5.	23 11 $\frac{1}{2}$	9 25 19 $\frac{1}{2}$	27 26	49 40	62 59 $\frac{1}{2}$	12 16 41.19	☉'s U. L. } Easterly. ☉'s L. L. } Height of the eye 10 feet. ☉'s L. L. } Westerly. ☉'s U. L. }
6.	25 48	27 54	30 01				
	10 26	15 5 43	6 12 $\frac{1}{2}$	49 40			

Observations of the Solar Eclipse.

At 13 h. 11' 47" by the Watch, I had a short sight of the Sun between the clouds, and saw that the Eclipse had begun: It remained cloudy until a little before two o'clock, when it cleared up, and I took the following measurements with my Hadley's Sextant, which I think may be advantageously made use of on these occasions.

1774.	Time by the Watch K.	Apparent Time.	Distance of the Cusps. After o.	Distance &c. re- duced.	1774.	Time by the Watch K.	Apparent Time.	Distance of the Cusps. After o.	Distance &c. re- duced.
	H "	H "	o.	o.		H "	H "	o.	o.
Sept. 6.	14 10 28	1 53 45 $\frac{1}{2}$	27 $\frac{1}{2}$	26 54	Sept. 6.	14 49 54	2 33 11 $\frac{1}{2}$	24 $\frac{1}{2}$	24 30
	13 31	1 56 48 $\frac{1}{2}$	27 $\frac{1}{2}$	27 0		53 7	2 36 24 $\frac{1}{2}$	24 $\frac{1}{2}$	24 21
	15 57	1 59 14 $\frac{1}{2}$		26 $\frac{1}{2}$		54 30	2 37 47 $\frac{1}{2}$	24 $\frac{1}{2}$	24 36
	17 19	2 0 36 $\frac{1}{2}$		26 $\frac{1}{2}$		15 11 53	2 55 10 $\frac{1}{2}$	23 $\frac{1}{2}$	23 24
	22 50	2 6 7 $\frac{1}{2}$		26 $\frac{1}{2}$		12 50	2 56 7 $\frac{1}{2}$	22 $\frac{1}{2}$	22 36
	23 45	2 7 3 $\frac{1}{2}$		26		13 29	2 56 46 $\frac{1}{2}$	22 $\frac{1}{2}$	22 51
	24 33	2 7 50 $\frac{1}{2}$		26		14 9	2 57 26 $\frac{1}{2}$	21 $\frac{1}{2}$	21 40
	25 41	2 8 58 $\frac{1}{2}$	26 $\frac{1}{2}$	25 54		14 39	2 57 56 $\frac{1}{2}$	21 $\frac{1}{2}$	21 24
	26 29	2 9 46 $\frac{1}{2}$	26 $\frac{1}{2}$	25 54		15 31	2 58 48 $\frac{1}{2}$	21 $\frac{1}{2}$	21 51
	27 15	2 10 32 $\frac{1}{2}$	26 $\frac{1}{2}$	26 0				32 $\frac{1}{2}$	31 $\frac{1}{2}$
	28 22	2 11 39 $\frac{1}{2}$	26	25 39				32 $\frac{1}{2}$	31 $\frac{1}{2}$
			32	31 $\frac{1}{2}$				32 $\frac{1}{2}$	31 $\frac{1}{2}$
	The Sun's diameter.		32 $\frac{1}{2}$	31 $\frac{1}{2}$				32 $\frac{1}{2}$	31 $\frac{1}{2}$
			32 $\frac{1}{2}$	31 $\frac{1}{2}$				32 $\frac{1}{2}$	31 $\frac{1}{2}$
	14 34 21	2 17 38 $\frac{1}{2}$	25 $\frac{1}{2}$	25 24		15 23 14	3 5 34 $\frac{1}{2}$	21	20 39
	35 7	18 24 $\frac{1}{2}$	25 $\frac{1}{2}$	25 9		23 36	3 6 53 $\frac{1}{2}$	20 $\frac{1}{2}$	26 9
			25 $\frac{1}{2}$	25 9		25 59	3 9 16 $\frac{1}{2}$	20 $\frac{1}{2}$	20 51
	35 39	18 56 $\frac{1}{2}$	25 $\frac{1}{2}$	25 9		27 25	3 10 42 $\frac{1}{2}$	19 $\frac{1}{2}$	20 6

Observations made on the Island of Pudyoua, on the Coast of New Caledonia, Continued

Observations of the Solar Eclipse

1774-	Time by the Watch K		Apparent Time	Lucid Part.		Part reduced.	1774	Time by the Watch K.		Apparent Time.	☉'s Dia meter		Reduc ed	
				After	Before			After	Before		After	Before		
	H	M		O	O			O	O		O	O		
8 Sept. 6	15	29	01			26 51					32 1/2	31 1/2	32 0	
	30	13	3 13 30 1/2		26 1/2	27 36					32 1/2	31 1/2	31 52 1/2	
	30	50	3 14 7 1/2	28 1/2	27 1/2	27 54					32 1/2	31 1/2	31 52 1/2	
	31	42	3 14 59 1/2	28 1/2		27 54					32 1/2	31 1/2	32 0	
	32	34	3 15 51 1/2	29		28 40					32 1/2	31 1/2	32 0	
	33	9	3 16 26 1/2	29 1/2		28 54					32 1/2	31 1/2	32 0	
	33	52	3 17 09 1/2		28 1/2	28 36					32 1/2	31 1/2	31 52 1/2	
	34	27	3 17 44 1/2		28 1/2	28 51					32 1/2	31 1/2	31 52 1/2	
	35	3	3 18 20 1/2		29	29 21								
								W W	15 45 32	3 28 49 1/2	After the Eclipse			
							Mr Clarke	45 35	52 1/2					
							Capt Cook	45 30	53 1/2	End of the Eclipse.				

As the cusps approach each other the fastest towards the end of the Eclipse, it would certainly have been best to continue measuring their distance to the end, if it could have been done with exactness; but I found that when they began to grow very obtuse, it was not easy to determine their coincidence, at least with so small a magnifying power as is generally used with Hadley's quadrant. If a micrometer on the same principles with Hadley's quadrant was applied to a proper telescope, which I think might be done with some advantage, this defect might probably vanish; as things are, I think it would be best always to measure the parts uneclipsed

Of the Tides

The distance which we lay from the shore, and the difficulty of getting thither, would not permit me to make a regular series of Observations on the Tides; but I found by equal altitudes of the water, that it was low water at the island where I observed the eclipse at 18 past noon of the 6th; and, as near as I could estimate, it was high water on the shore opposite the ship, at half past six o'clock the next morning. At 58 past noon on the 7th it was low water; but I could determine nothing with respect to the quantity it had ebbed, as the natives would not suffer any mark to stand on the shore, and there was no fixed object by which it could be done. The next morning I got the time of high water very accurately, by means of equal altitudes, at 19 h 29, and found that it had flowed three feet and near an inch from yesterday's low water mark. At five or ten minutes past two o'clock on the 8th, it was low water, and I found that it had ebbed out from this morning's high water mark three feet and an inch nearly. These were all the remarks of this sort which I was able to make here.

Observations made on Board the Ship, at Anchor.

Observations of Meridian Altitudes for the Latitude.

1774.	Meridian Altitude of the \odot 's L. L.	Latitude.	Quadrant.	<p>* * The great difference between the latitudes deduced from the three first Observations, as well as that made on the little island, on the 6th, and those deduced from the five last Observations, did not escape my notice at the time, nor did they pass without the strictest examination, as well as care, in the four last, so that I am certain no mistake has happened in them; and that no mistake has been committed in the former may reasonably be concluded, as they agreed exceeding near with those taken by Mr. Clerke and others on the little island.</p> <p>N. B. The small island, where I observed the Eclipse, bore S. 88 E. by compass, about a mile distant; that is, about S. 79° E. true: Of course the difference of latitude is about 11", whence the latitude of the island will be 20° 17' 59" S.</p>
Sept. 7.	63 23 $\frac{1}{2}$	20 16 40	Ramsden.	
8.	63 45 $\frac{1}{2}$	20 16 52	Dollond.	
9.	64 8 $\frac{1}{2}$	20 16 48	Ramsden.	
10.	64 29 $\frac{1}{2}$	20 18 20	Ramsden.	
11.	64 52 $\frac{1}{2}$	20 18 0	Ramsden.	
	64 52 $\frac{1}{2}$	20 18 30	Dollond.	
12.	65 14 $\frac{1}{2}$	20 18 45	Dollond.	
	65 15 $\frac{1}{2}$	20 18 30	Ramsden.	
Latitude		20 17 48	South.	

Observations for the Longitude by the Watch K.

1774.	Time by the Watch K.	Apparent Time.	Altitude of the \odot 's L. L.	Barometer.	Thermometers. A. B.	Longitude by the Watch.	No. of Observations.	Remarks.
	H " "	H " "	" " "			" " "		
Sept. 5.	15 17 44 $\frac{1}{2}$	3 0 50,7	37 45 54	30,09	77 75 $\frac{1}{2}$	163 55 22 $\frac{1}{2}$	10	Cloudy.
6.	9 49 24 $\frac{1}{2}$	21 32 45 $\frac{1}{2}$	44 59 44	30,08	73 $\frac{1}{2}$ 72 $\frac{1}{2}$	163 56 37 $\frac{1}{2}$	6	
7.	7 13 4	18 56 36	11 0 10	30,04	73 $\frac{1}{2}$ 72 $\frac{1}{2}$	163 58 0	6	
8.	7 9 4 $\frac{1}{2}$	18 51 33 $\frac{1}{2}$	9 58 52	30,08	73 $\frac{1}{2}$ 74 $\frac{1}{2}$	163 55 45	6	
9.	7 54 14 $\frac{1}{2}$	19 37 54	20 43 41	30,09	73 $\frac{1}{2}$ 71	163 56 45	6	
10.	16 5 39	3 49 22,7	28 9 10	30,06	76 75	163 57 0	8	Dist.
	16 12 2 $\frac{1}{2}$	3 55 50	26 42 40	30,06	76 75	163 58 0	6	Dist.
	8 24 32	20 8 16	27 44 23	30,21	73 $\frac{1}{2}$ 72	163 56 7 $\frac{1}{2}$	10	
11.	15 21 21 $\frac{1}{2}$	3 5 10	38 1 9	30,08	74 $\frac{1}{2}$ 76 $\frac{1}{2}$	163 56 37 $\frac{1}{2}$	6	
	7 38 2 $\frac{1}{2}$	19 21 52	17 22 7 $\frac{1}{2}$	30,14	74 72 $\frac{1}{2}$	163 55 52 $\frac{1}{2}$	6	
	15 5 14 $\frac{1}{2}$	2 49 12	41 37 13 $\frac{1}{2}$	30,08	76 $\frac{1}{2}$ 79	163 57 15	8	Dist.
Mean of all						163 56 40 $\frac{1}{2}$	East.	

Observations made on Board the Ship, at Anchor

Observations for the Variation of the Compass

1774	Altitude of the O's L L	Azimuth of the O's Cen- ter	Variation East	No of Observat	Remarks
8 Sept 7	7 2 24	N 73 3 E	7 59 $\frac{1}{2}$	5	Gregory's Compass, observed by Mr Clarke
	8 5 20	N 72 22 E	8 15	5	Gregory's Compass
14 — 8	6 0 10	N 73 46 E	7 42 $\frac{1}{2}$	5	Gregory's Compass
	8 24 2	N 72 22 E	8 30 $\frac{1}{2}$	5	Knight's Compass
9 — 9	10 31 24	N 71 3 E	9 25	10	Knight's Compass
10 — 11	10 12 45	N 72 3 E	9 22 $\frac{1}{2}$	10	Knight's Compass
		Mean	8 32 $\frac{1}{2}$		East

This variation, as usual, is considerably less than any observed at sea for some time, both before and after we were at this place

Lunar Observations for the Longitude

1774	Time by the Watch K	Apparent Time H	Altitude of the ☉ or *	Moon's Al- titude	Distance ☉ & Limb from ☉ or *	Barom	Ther- m	Longi- tude East	Remarks
8 Sept 9	19 3 36 $\frac{1}{2}$	6 47 11 $\frac{1}{2}$	65 53 $\frac{1}{2}$ tr	27 4 tr	42 17 30	30.08	71 $\frac{1}{2}$	165 17 $\frac{1}{2}$	☉ and Antares, a mean of 7 Observations
10 — 10	16 5 39	3 49 22 7	28 9 $\frac{1}{2}$ L L	76 29 $\frac{1}{2}$ L L	50 4 22 $\frac{1}{2}$	30.06	75	164 15 $\frac{1}{2}$	☉ and ☉ a mean of 8 Observations
	16 12 2 $\frac{1}{2}$	3 55 50	26 42 $\frac{1}{2}$ L L	75 31 L L	50 6 22	30.06	75	164 13 $\frac{1}{2}$	☉ and ☉ a mean of 6 Observations
11 — 11	19 4 54	6 48 43	19 6 tr	52 32 tr	32 48 28 $\frac{1}{2}$	30.18	73	164 31 $\frac{1}{2}$	☉ and Jovic a mean of 8 Observations
	19 25 38 $\frac{1}{2}$	7 9 57 $\frac{1}{2}$	56 27 $\frac{1}{2}$	47 44 $\frac{1}{2}$ tr	66 23 17 $\frac{1}{2}$	30.18	73	164 56 $\frac{1}{2}$	☉ and a Aquilæ a mean of 6 Observations
12 — 12	15 5 14	2 49 12	41 37 $\frac{1}{2}$ L L		75 56 50	30.08	79	164 10 $\frac{1}{2}$	☉ and ☉ a mean of 8 Observations
	15 13 44	2 57 42	39 47 $\frac{1}{2}$ L L		75 59 36 $\frac{1}{2}$	30.08	79	164 22 $\frac{1}{2}$	☉ and ☉ a mean of 8 Observations
	19 9 34 $\frac{1}{2}$	5 53 33	54 42 $\frac{1}{2}$	54 34 tr	54 16 10 $\frac{1}{2}$	30.10	73 $\frac{1}{2}$	165 40 $\frac{1}{2}$	☉ and a Aquilæ a mean of 8 Obs Cloudy

As it frequently happened that the altitude of one or both of the objects could not be observed for the land I was obliged to compute them from the apparent time deduced from the Watch, and such are here marked tr The numbers put down are the true altitude of the center

The mean of the above Observations give $164^{\circ} 42' 6'' \frac{1}{2}$ for the Longitude of the ship. Twenty Observations taken before we arrived and reduced higher by the Watch give $164^{\circ} 45' 54'' \frac{1}{2}$ and twenty taken after leaving the place gave $164^{\circ} 32' 32''$ the mean of these three is $164^{\circ} 40' 11''$ E the Longitude of the ship at anchor The bearing and distance of the little island where I observed the eclipse gives 1 3 for the difference of Longitude between the ship and island and of course the Longitude of the latter will be $164^{\circ} 41' 14''$ E but the Watch gave only $27' \frac{1}{2}$ difference of Longitude; and therefore if this be taken the Longitude will be no more than $164^{\circ} 40' 38'' \frac{1}{2}$ E I should prefer the former

Observations made at Queen Charlotte's Sound, in New Zealand.

1774.	Equal Altitudes. Times by the Clock B.			Zenith Distance.	Azimuth of ☉'s center from the North at the times of equal Altitudes.			Time of ap- parent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.		Lower Wire.	Middle Wire.	Upper Wire.		
		H						H	
☉ — 21.	19 21 22 14½ 33 06 36 41	9 21 40½ 24 36 11 35 59½ 39 44	24 1 26 56 38 54½ 42 31½	64 40 0 41 20 0				13 47 14,28	☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. } ☉'s L. L. }
☉ — 22.	1 42 12 39½ 15 36 6 48½ 9 49½ 52 1 55 11	15 55 7½ 58 50 18 10 18½ 13 15½ 10 9 15 12 14½ 57 46	52 11½ 55 57 7 58 10 55 11 39 14 38½ 0 20½	41 20 0 64 40 0 56 20 0 48 20 0				13 50 45,29	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } ☉'s L. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
☉ — 23.	46 41 49 51 32 04 35 03½ 38 18½ 41 16½	16 44 6½ 47 19 17 29 39 32 40½ 9 40 4½ 43 38½	44 46 27 16 30 17 43 3 46 59	48 20 0 56 20 0 62 0 0				13 54 19,11	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. }
☉ — 24.	7 47 10 45 39 28 42 25 52 02 54 58	18 8 23 9 41 49½ 44 45 9 54 23½ 57 19½	14 9 47 4½ 56 44 59 41	62 0 0 62 40 0 60 20 0				14 1 28,25	☉'s L. L. } Very cloudy. ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
☉ — 25.	39 28 42 25 52 02 54 58	9 41 49½ 44 45 9 54 23½ 57 19½	14 9 47 4½ 56 44 59 41	62 40 0 60 20 0	69 0 68 25 67 0 66 20	68 29 67 55 68 30 66 0	68 0 67 45 66 0	14 8 42,29	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
☉ — 26.	8 23½ 11 21½ 20 58 23 53½ 31 52½ 34 47½ 47 16	18 6 1½ 8 59 18 18 37½ 21 34 9 34 13 37 7½ 9 46 42½ 49 37	6 39 16 19 19 13½ 36 32 39 27 49 1 51 57½	60 20 0 62 40 0 65 0 0 62 40 0	Varia. 94 45 95 15 97 30 97 50 72 5 71 45	14 20 94 25 94 40 96 50 97 30 71 25 69 50 69 25	East. 94 35 96 25 96 55 71 30 71 05 69 25 69 0	14 19 36,29	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } ☉'s L. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
☉ — 27.	31 52½ 34 47½ 47 16	9 34 13 37 7½ 9 46 42½ 49 37	36 32 39 27 49 1 51 57½	65 0 0 62 40 0	72 5 71 45	71 50 71 25 69 50 69 25	71 30 71 05 69 25 69 0	14 8 42,29	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } ☉'s L. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
☉ — 28.	30 34½ 43 2½ 45 58½ 55 27½ 58 22 7 58 10 54	18 28 13 19 31 8 18 40 40½ 43 30½ 9 57 47½ 10 0 42 10 10 19 13 15	18 24½ 41 17 0 7 3 24 12 39½ 15 35	62 40 0 65 0 0 62 0 0 59 40 0	97 50 99 35 100 20 70 55 70 15 68 15 68 0	97 15 97 45 99 20 99 45 70 20 70 05 68 5 67 50	96 55 99 10 99 30 70 05 69 45 68 0 67 15	14 19 36,29	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } ☉'s L. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
☉ — 29.	55 27½ 58 22 7 58 10 54	9 57 47½ 10 0 42 10 10 19 13 15	0 7 3 24 12 39½ 15 35	62 0 0 59 40 0	70 55 70 15 68 15 68 0	70 20 70 05 68 5 67 50	70 05 69 45 68 0 67 15	14 19 36,29	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } ☉'s L. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
☉ — 30.	55 27½ 58 22 7 58 10 54	9 57 47½ 10 0 42 10 10 19 13 15	0 7 3 24 12 39½ 15 35	62 0 0 59 40 0	70 55 70 15 68 15 68 0	70 20 70 05 68 5 67 50	70 05 69 45 68 0 67 15	14 19 36,29	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } ☉'s L. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
☉ — 31.	28 42½ 31 38½ 41 16½	18 26 22 29 18 41 50	24 2½ 26 59 36 34½ 39 29½	59 40 0 62 0 0	96 45 97 15 99 0	96 0 96 55 99 5	95 40 96 5 98 30 98 45		☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. }

Observations made at Queen Charlotte's Sound, Continued

1774	Equal Altitudes, Times by the Clock B			Zenith Distance	Azimuth of ☉ : centre from the North at the times of equal Altitudes			Time of ap- parent Noon by the Clock	Phaenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire		Lower Wire	Middle Wire	Upper Wire		
	H								
8 Nov 2	6 45	10 9 6	11 24	61 20 0	71 35	71 20		14 30 37 10	☉ : U L
	9 40½	12 0	14 20		71 20	71 0	70 50		☉ : L I
	19 13	10 21 34	23 53½		69 40	69 25	69 20		☉ : U L
21 — 3	22 10	24 30½	26 51	59 0 0	69 20	69 20	69 05	14 30 37 10	☉ : L L
	39 25½	18 37 5	34 45	59 0 0	Varia	14 15	East		☉ : L L
	42 23	40 24	37 43		97 45	97 25	97 0		☉ : U L
	51 56	18 49 36½	47 16½	61 20 0	98 10	97 50	97 30	14 34 18 45	☉ : L L
	54 53	52 32	50 13½		100 25	99 30	99 10		☉ : U L
	46 57½	10 49 20	51 40½		100 35	100 25	99 35		☉ : L L
22 — 4	49 55½	52 18	54 39½	54 20 0	65 0	64 45	64 15	14 34 18 45	☉ : U L
	19 0	18 16 40	14 18	54 20 0	64 45	64 16	63 35		☉ : L L
	21 58½	19 37	17 17		Varia	14 48½	East		☉ : U L
		9 56 39	58 57½	64 40 0	94 30	93 30	93 15	14 38 0 49	☉ : L L
		59 33½	1 51½		94 45	94 35	93 35		☉ : U L
	28 7½	10 30 29	32 48			75 0	74 35		☉ : L L
25 — 5	31 4½	33 25½	35 45	58 20 0	74 30	74 15	74 15	14 38 0 49	☉ : U L
	45 17½	18 42 56½	40 38	58 20 0	69 35	69 15	69 0		☉ : L L
	48 13½	45 53½	43 34		69 15	69 0	68 30		☉ : U L
		19 16 51	14 32½	64 40 0	Varia	14 24½	East	14 38 0 49	☉ : L L
		19 46	17 27		98 0	97 35	97 10		☉ : U L
					98 25	98 05	97 40		☉ : L L
						103 35	103 5		☉ : U L
						103 50	103 40		☉ : L L

* * The Observatory stood exactly in the place where it did last year, and where I observed the equal altitudes in May and June, 1773. The Clock also was fixed up in the usual manner, by means of the iron block and frame but I had the mortification to find it so much injured by the dampness of the place it had lain in, and the parts, particularly the pendulum, so covered with rust, that it would not go without fresh oil, and an additional weight for the first day or two after it was set up.

Observations made at Queen Charlotte's Sound, Continued.

Computations of the Clock's Rate of going.

1774.		Time of appa- rent Noon by the Clock.	Syderial Time of apparent Noon.	Clock too fast for Syderial Time.	Clock loses between the Obser- vations.	Clock loses each Day on Syderial Time.
		H "	H "	" "	" "	" "
b	Oct. 22.	13 47 14,28	13 46 33,90	0 40,38		
o	— 23.	13 50 45,29	13 50 21,80	0 23,49	16,89	16,89
D	— 24.	13 54 19,11	13 54 10,70	0 08,41	15,08	15,08
				Clock flow.		
#	— 26.	14 1 28,25	14 1 50,38	0 22,13	30,54	15,27
2	— 28.	14 8 42,29	14 9 33,10	0 50,81	28,68	14,34
D	— 31.	14 19 36,89	14 21 13,10	1 36,21	45,40	15,13
o	Nov. 3.	14 30 37,10	14 33 0,37	2 23,27	47,06	15,69
2	— 4.	14 34 18,45	14 36 57,78	2 39,33	16,06	16,06
b	— 5.	14 38 0,49	14 40 56,01	2 55,52	16,19	16,19
				Mean		15,58

If the gain between the first and last Observation be taken, the Clock's gain on Syderial Time will be 15",42 each day.

The pendulum vibrated 1° 37 $\frac{1}{2}$ each way from the perpendicular the whole time.

Observations of Meridian Altitudes of the Sun and Stars for the Latitude.

1774.	Zenith Distances.				Exterior Arch reduced.	Barom.	Thermom.		Phenomena and Remarks.
	Interior Arch.	Exterior Arch.					In Tent.	Out	
		G. S. V.	+ "						
Oct. 26.	28 56 45	30 3 17	10		28 57 19	29,67	70 $\frac{1}{2}$	71	o's L. L.
— 28.	27 43 53	29 2 11	8		27 44 20 $\frac{1}{2}$	29,67	67	68	o's U. L.
— 31.	27 16 52	29 0 13	21		27 17 19	29,60	65	67	o's L. L.
	10 17 7	10 3 29	0		10 17 26	29,61	55	50 $\frac{1}{2}$	Fomalhaut.
	55 4 25	58 3 0	15		55 4 56	29,61	55	50 $\frac{1}{2}$	a Pegasi.
	68 54 28	73 2 1	5		68 54 54	29,62	53 $\frac{1}{2}$	50.	a Andromedæ.
	17 17 15	18 1 25	8		17 17 41	29,62	52 $\frac{1}{2}$	49 $\frac{1}{2}$	Achernar.
Nov. 1.	26 24 22	28 0 21	20		26 24 33 $\frac{1}{2}$	29,70	67	66	o's U. L.
— 2.	26 37 55	28 1 21	6		26 38 17 $\frac{1}{2}$	29,38	67 $\frac{1}{2}$	65 $\frac{1}{2}$	o's L. L.
	6 56 40	7 1 21	21		6 57 23	29,40	51 $\frac{1}{2}$	45 $\frac{1}{2}$	a Gruiæ.

ASTRONOMICAL OBSERVATIONS

Observations at Queen Charlotte's Sound, Continued

Observations of meridian Altitudes of the Sun and Stars for the Latitude

1774	Zenith Distances				Exterior Arch reduced	Barom	Thermom		Phenomena and Remarks
	Interior Arch	Exterior Arch					In Tent	Out	
		G	S	V					
Nov 2	6 56 53	7 1 22	4	6 57 33	29,40	50 $\frac{1}{2}$	44 $\frac{1}{2}$	β Gruis	
	16 17 7	10 3 28	23	10 17 22 $\frac{1}{2}$	29,41	50	43	Fomalhaut	
	55 4 6	58 3 0	0	55 4 41	29,41	50	43	α Pegasi	
	68 54 3	73 2 0	24	68 54 22 $\frac{1}{2}$	29,42	48 $\frac{1}{2}$	43	α Andromedæ	
24 — 3	17 16 30	18 1 23	23	17 16 40	29,42	47	43 $\frac{1}{2}$	Achernar	
	6 56 40	7 1 21	10	6 57 2 $\frac{1}{2}$	29,49	55 $\frac{1}{2}$	53	α Gruis	
	20 15 52	21 2 16	6	20 16 30	29,49	55 $\frac{1}{2}$	53	α Anseris Americani	
	6 56 55	7 1 22	10	6 57 39	29,49	51 $\frac{1}{2}$	48 $\frac{1}{2}$	β Gruis	
	10 16 40	10 3 28	12	10 17 11 $\frac{1}{2}$	29,49	51 $\frac{1}{2}$	48 $\frac{1}{2}$	Fomalhaut	
	55 4 8	58 3 0	4	55 4 45	29,49	51 $\frac{1}{2}$	48 $\frac{1}{2}$	α Pegasi	
	68 54 23	73 2 0	22	68 54 44 $\frac{1}{2}$	29,50	50	47 $\frac{1}{2}$	α Andromedæ	
7 — 4	17 16 32	18 1 24	0	17 17 6 $\frac{1}{2}$	29,54	51	50	Achernar	
	6 56 58	7 1 22	13	6 57 29	29,52	59	56	β Gruis	
	10 17 10	10 3 29	10	10 17 36	29,52	57 $\frac{1}{2}$	53 $\frac{1}{2}$	Fomalhaut.	
	55 4 35	58 3 1	0	55 5 7 $\frac{1}{2}$	29,52	57 $\frac{1}{2}$	53 $\frac{1}{2}$	α Pegasi	
5 — 5	25 9 20	26 3 11	13	25 9 44	29,75	70	73 $\frac{1}{2}$	α U L	

For the Error of the Line of Collimation of the Quadrant

1774.	Zenith distance of the upper hole the quadrant direct				Zenith distance of the lower hole the quadrant inverted				These Observations give four comparisons for each arch of the Quadrant viz + 21 ¹ / ₂ — 6 ¹ / ₂ , + 15 ¹ / ₂ and — 0 ¹ / ₂ for the interior, or 90 arch, and + 1 ¹ / ₂ , — 28 ¹ / ₂ , — 6 ¹ / ₂ and — 21 ¹ / ₂ for the exterior, or 96 arch the mean of the former is 7 ¹ / ₂ to be added, and of the latter 13 ¹ / ₂ to be subtracted
	Interior Arch	Exterior Arch			Interior Arch	Exterior Arch			
		G	S	V		+	G	S	
	89 13 25	95 0	23	0	90 45 55	96 3	8	20	
	13 35		23	14	45 25		8	7	
	13 40		23	7	45 25		8	9	
	13 50		23	24	45 45		8	20	
	13 45		23	13	45 30		8	7	
	13 50		23	12	45 35		8	10	
	13 37		23	20	46 35		10	20	
	13 50		24	14	46 23		10	0	
	14 0		23	24	46 30		10	6	
	13 55		24	5	46 0 ¹ / ₂		10	0	
	14 05		23	20	46 05		9	20	

Observations at Queen Charlotte's Sound, Continued.

Computations for the Latitude of the Place.

1774-	Latitude by the Interior Arch.	Exterior Arch.	Declination.	1774-	Latitude by the Interior Arch.	Exterior Arch.	Declination.
	0	0	0		0	0	0
	By Observations of the Sun.				By Observations of α Grus.		
8 Oct. 26	41 5 46	41 5 59	12 24 37 S.	8 Nov. 2.	41 5 32	41 5 10	48 2 26 $\frac{1}{2}$ S.
9 — 28.	41 5 58	41 6 4	13 5 23	24 — 3.	41 5 32	41 5 21	
9 — 31.	41 6 11	41 6 17	14 4 59		41 5 32	41 5 16	Means,
8 Nov. 7.	41 5 29	41 5 19	14 24 25		By Observations of β Grus.		
8 — 2.	41 5 51	41 5 58	14 43 36	8 Nov. 2.	41 6 13	41 5 55	48 3 21 S.
8 — 5.	41 5 44	41 5 47	15 39 44	24 — 3.	41 6 11	41 5 39	
	41 5 50	41 5 54	Means.	9 — 4.	41 6 8	41 5 46	Means,
	By Observations of Fomalhaut.				41 6 11	41 5 46	Means,
9 Oct. 31.	41 6 03	41 6 01	30 48 40 S.		By an Observation of α Antaris American.		
9 Nov. 2.	41 6 03	41 5 57		24 Nov. 3.	41 6 12	41 5 55	61 22 32 S.
24 — 3.	41 5 36	41 5 47			By Observations of Achernar.		
9 — 4.	41 6 06	41 6 11		9 Oct. 31.	41 5 39	41 5 43	58 23 19 S.
	41 5 57	41 5 59	Means.	8 Nov. 2.	41 6 24	41 6 13	
	By Observations of α Andromeda.			24 — 3.	41 6 22	41 6 15	Means.
9 Oct. 31.	41 6 01	41 6 11	27 50 56 N.		41 6 8	41 6 4	Mean of the southern stars.
9 Nov. 2.	41 5 43	41 6 5			41 6 01	41 5 45	Mean of the northern stars.
24 — 3.	41 6 2	41 6 2			41 5 52	41 5 59	Mean of both.
	41 5 57	41 6 6	Means.		41 5 57	41 5 52	Latitude South.
	By Observations of α Pegasi.				41 5 54		
9 Oct. 31.	41 5 51	41 6 1	14 0 03 N.				
9 Nov. 2.	41 5 33	41 5 47					
24 — 3.	41 5 34	41 5 50					
9 — 4.	41 6 0	41 6 11					
	41 5 41	41 5 57	Means.				

Lunar Observations for the Longitude.

1774-	Time by the Clock.	Apparent Time.	True Alt. of \odot 's Center.	Zenith Distance of \odot 's U. L.	Distance of the \odot and \odot 's Limbs.	Error of the Quadrant.	Barometer.	Thermometer.	Longitude.	Remarks.
	H	H	0	0	0				0	
8 Oct. 23.	4 33 49	14 40 55	11's first satellite immersed at a sensible distance from the Planet. Mag. power 150						174 7 30	
8 — 25.	8 41 26	18 44 30	16 24	65 15	109 39	+3 29	29.68	60	174 22 50	Dollond's Quadrant.
	43 21			26	39					
	44 40			33	30					
	46 2			40	38					
	47 14			46	38					
	48 21	18 54 49	18 20	52	38	-1 54	29.68	60	174 33 55	Ramden's Quadrant.
	8 52 44			66 17	109 42					
	53 49			23	41					
	55 2			31	41					
	55 59			36	41					
	57 4			42	40					
	58 34			51	40					

Observations at Queen Charlotte's Sound, Continued

Lunar Observations for the Longitude

1774	Time by the Clock	Apparent Time	True Alt. of ☉ Center	Zenith Distance of ☉ and U L	Distance of the ☉ and ☽ Limbs	Error of the Quadrant	Barometer	Thermometer	Longitude	Remarks
	H	H	°	°	°					
4 Oct 27	8 46 10	18 41 40 $\frac{1}{2}$	16 18 $\frac{1}{2}$	57 33 $\frac{1}{2}$	87 51 $\frac{1}{2}$	+3 38	29 7 $\frac{1}{2}$	59	174 6 30 $\frac{1}{2}$	Dollond's Quadrant
	47 20			34 $\frac{1}{2}$	51 $\frac{1}{2}$					
	48 55			35 $\frac{1}{2}$	51 $\frac{1}{2}$					
	50 23			36 $\frac{1}{2}$	50 $\frac{1}{2}$					
	51 24			37 $\frac{1}{2}$	50 $\frac{1}{2}$					
	53 3	18 51 21 $\frac{1}{2}$	18 08	39 $\frac{1}{2}$	49 $\frac{1}{2}$	-1 42 $\frac{1}{2}$	29 7 $\frac{1}{2}$	59	174 33 52	Ramfden's Quadrant
	8 55 25			57 43 $\frac{1}{2}$	87 54 $\frac{1}{2}$					
	57 3			45	54					
	58 33			47	53 $\frac{1}{2}$					
	59 51			49	53 $\frac{1}{2}$					
	9 1 35	20 9 43 $\frac{1}{2}$	33 28 $\frac{1}{2}$	51 $\frac{1}{2}$	52 $\frac{1}{2}$	+3 52	29 58	67	174 31 15	Dollond's Quadrant
	3 4			54	52					
	10 24 59			48 43 $\frac{1}{2}$	53 19					
	26 45			40	18 $\frac{1}{2}$					
	28 18			35	18 $\frac{1}{2}$					
	29 35	20 18 49	35 8 $\frac{1}{2}$	33 $\frac{1}{2}$	17 $\frac{1}{2}$	-2 26	29 58	67	174 41 15	Ramfden's Quadrant
	30 45			31	17 $\frac{1}{2}$					
	32 6			28 $\frac{1}{2}$	17					
	10 34 29			48 24	53 22 $\frac{1}{2}$					
	35 59			21 $\frac{1}{2}$	22					
	37 9	21 29 38 $\frac{1}{2}$	49 15 $\frac{1}{2}$	19 $\frac{1}{2}$	21 $\frac{1}{2}$	+3 32	29 64	70	174 20 55	Dollond's Quadrant
	38 41			17 $\frac{1}{2}$	21					
	39 56			16	20 $\frac{1}{2}$					
	41 0			14 $\frac{1}{2}$	20 $\frac{1}{2}$					
	11 56 45			49 28 $\frac{1}{2}$	52 49 $\frac{1}{2}$					
	58 16	21 44 57	50 7 $\frac{1}{2}$	36 $\frac{1}{2}$	48 $\frac{1}{2}$	-2 22	29 64	70	174 28 15	Ramfden's Quadrant
	59 53			40	48 $\frac{1}{2}$					
	12 0 43			43	48					
	12 1 48			49 50	52 53					
	3 39			54 $\frac{1}{2}$	53 $\frac{1}{2}$					
5 Oct 31	4 33	19 56 40 $\frac{1}{2}$	31 14 $\frac{1}{2}$	56 $\frac{1}{2}$	52 $\frac{1}{2}$	+3 26 $\frac{1}{2}$	29 68	65	174 41 7 $\frac{1}{2}$	Dollond's Quadrant
	5 54			50 1 $\frac{1}{2}$	58 $\frac{1}{2}$					
	10 14 41			49 0 $\frac{1}{2}$	41 22 $\frac{1}{2}$					
	16 19			48 48	22					
	18 41			34 $\frac{1}{2}$	21 $\frac{1}{2}$					
	20 0	20 9 28	33 37 $\frac{1}{2}$	27 $\frac{1}{2}$	21	-2 15 $\frac{1}{2}$	29 68	65	174 44 37 $\frac{1}{2}$	Ramfden's Quadrant
	21 54			18	20					
	24 21			31	20					
	10 27 5			47 49 $\frac{1}{2}$	41 25					
	30 7			32 $\frac{1}{2}$	23 $\frac{1}{2}$					
	31 41			25 $\frac{1}{2}$	22 $\frac{1}{2}$					
	33 0			18 $\frac{1}{2}$	22					
	34 24			12	21 $\frac{1}{2}$					
	36 37			01	21					

ASTRONOMICAL OBSERVATIONS.

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Observations at Queen Charlotte's Sound, Continued.

Lunar Observations for the Longitude.

1774.	Time by the Clock.	Apparent Time.	Zenith Dist. of the ☉'s L. L.	True Alt. of the ☉'s Center.	Distance of the ☉ and ☾'s Limbs.	Error of the Quadrant.	Barometer.	Thermometer.	Longitude.	Remarks.
	H M S	H M S	° ' "	° ' "	° ' "	" "			° ' "	
8 Nov. 1.	13 51 59		27 42 ¹ / ₂		27 43					
	53 52		36 ¹ / ₂		42 ¹ / ₂					
	55 12		31 ¹ / ₂		42 ¹ / ₂					
	56 22	23 28 41 ¹ / ₂	27 ¹ / ₂	48 17	42	+3 30	29.38	71 ¹ / ₂	174 39 7 ¹ / ₂	Dollond's Quadrant.
	57 27		24 ¹ / ₂		41 ¹ / ₂					
	58 27		21 ¹ / ₂		41					
	14 0 30		27 15 ¹ / ₂		27 46 ¹ / ₂					
	1 46		12 ¹ / ₂		46					
	2 51	23 37 0 ¹ / ₂	9 ¹ / ₂	47 36 ¹ / ₂	45 ¹ / ₂	-2 45	29.38	71 ¹ / ₂	174 41 15	Ramsden's Quadrant.
	3 41		7		45 ¹ / ₂					
	6 30		1		44 ¹ / ₂					
	7 54		26 58		43 ¹ / ₂					

The following Observations were made on board the Ship; the Place of the Observatory bearing S. by W. $\frac{1}{4}$ W. by Compass, about Half a Mile Distant.

1774.	Time by the Watch K.	Apparent Time.	Altitude of the ☉'s L. L.	True Alt. of the ☉'s Center.	Distance of the ☉ and ☾'s Limbs.	Error of the Quadrant.	Barometer.	Thermometer.	Latitude.	Remarks.
	H M S	H M S	° ' "	° ' "	° ' "	" "			° ' "	
8 Nov. 8.	8 21 56		41 22							
	21 24 ¹ / ₂		27							
	22 52		31 ¹ / ₂			-2 44	29.35	60		
	23 23		37							
	23 51		42							
	24 24		47 ¹ / ₂							
			True Altitude of the ☉'s Center.							
9 — 9.	16 30 11 ¹ / ₂				68 50 ¹ / ₂					
	30 48				50 ¹ / ₂					
	31 30 ¹ / ₂	4 52 50	23 32 ¹ / ₂	66 20 ¹ / ₂	50 ¹ / ₂	+3 5	29.65	62	174 35 15	Dollond's Quadrant. Cloudy.
	32 10				51 ¹ / ₂					
	16 36 56				68 53					
	37 27				53 ¹ / ₂					
	38 24	4 59 49 ¹ / ₂	23 13 ¹ / ₂	66 18 ¹ / ₂	53 ¹ / ₂	-1 3 5	29.65	62	174 21 30	Dollond's Quadrant.
	38 45 ¹ / ₂				54					
	39 15				54 ¹ / ₂					
	16 50 29				69 5					
	52 42				5 ¹ / ₂					
	53 47	5 15 57	19 12 ¹ / ₂	65 50 ¹ / ₂	6 ¹ / ₂	-2 29	29.65	62	173 35 45	Ramsden's Quadrant. Very cloudy.
	55 13				6 ¹ / ₂					
	56 19				7					
	57 11				7 ¹ / ₂					

Observations at Queen Charlotte's Sound, Continued

Observations for the Dip of the Magnetic Needle

1774	Face of the Instrument	
	East	West
	°	°
8 Nov 1	63 35	64 15
	64 15	66 45
	64 25	65 30
	65 15	65 25
Mean	64 22½	65 28½
Changed the Poles and altered the Balancing		
	64 0	63 30
	64 30	66 30
	64 25	63 30
	64 25	65 45
	64 20	65 25
	64 20	65 30
Mean	64 20	65 17
Changed the Poles		
8 Nov 2	63 45	65 0
	63 15	65 45
8 Nov 2	63 25	65 20
	63 0	64 45
Mean	63 21½	65 12½

1774	Face of the Instrument	
	East	West
	°	°
Changed the Poles		
	66 30	64 40
	66 30	64 55
	66 30	66 20
	64 25	66 30
	64 50	66 40
Mean	65 45	65 49
Altered the Balancing		
	64 40	64 10
	64 20	64 0
	64 20	64 0
	63 20	63 55
	63 45	64 05
	64 40	65 45
	65 45	66 0
Mean	64 24½	64 33½

1774	Face of the Instrument	
	East	West
	°	°
First Mean	64 22½	65
Second ditto	64 20	65 11
Third ditto	63 21½	65 12½
Fourth ditto	65 45	65 11
Fifth ditto	64 21½	64 11
Mean of all	64 26½	65 1
Mean of all this year		64 1
Last year		64 21
First year		64 1
Mr Bayley's Observations		64 11
The mean of all		64 14½
N B It was the Needle's south end that dipped here		

Computations of the Rate which Mr Kendall's Watch went at

1774	Time of Ap parent Noon by the Clock		Time by the Clock when the Watch was compared		Time from Noon by the Clock		Clock gal. on W. h. since Noon		Time from Noon by the Watch		Time by the Watch when compared		Time of Ap parent Noon by the Watch		Mean Time of Apparent Noon		Watch too slow for Mean Time		W h M S
	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	
Oct 22	13	47 14 28	13	51 15	4	07	0 58	4	0 14	11	39 0	11	34 59 86	23	44 38 72	12	9 38 61		
23	13	50 45 29	14	13 46	13	1 21	3 33	22	57 88	11	58 0	11	35 3 12	23	44 30 30	9	28 14		
24	13	54 19 11	14	5 13	10	54 39	1 57	10	52 82	11	46 0	11	35 7 18	23	44 23 59	9	15 41	12	7
26	14	01 28 25	14	8 9½	6	41 25	0 96	6	40 29	11	42 0	11	35 19 71	23	44 09 25	8	49 54	12	1
28	14	08 42 26	14	16 7½	7	25 21	1 07	7	24 14	11	43 0	11	35 35 86	23	43 58 92	8	23 01	11	23
31	14	10 36 89	14	41 37½	22	0 61	3 17	21	57 44	11	58 0	11	36 3 56	23	43 49 42	7	41 86	12	3
Nov 3	14	30 37 10	14	40 0	9	22 96	1 35	9	21 55	11	46 0	11	36 38 45	23	43 47 10	7	8 65	12	3
4	14	34 18 45	14	33 26½	0	52 20	0 13	0	52 07	11	36 0	11	36 52 07	23	43 47 92	6	55 85	12	3
5	14	38 00 44	14	38 54	0	53 51	0 13	0	53 38	11	38 0	11	37 06 62	23	43 49 56	6	42 04		

By taking a mean of all the comparisons that can be formed out of these, the Watch's gain each day, on mean time will come out 12 576

Observations made at Christmas Sound, in Terra del Fuego.

1774.	Equal Altitudes. Times by the Clock B.			Zenith Distance.	Time of apparent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
24 Dec. 22.	23 14	13		61 0 0		☉'s U. L.
						☉'s L. L.
		13 42 51	45 55½	58 40 0		☉'s U. L.
						☉'s L. L.
	5 44½	14 8 52½		55 0 0		☉'s U. L.
	9 39					☉'s L. L.
23.	16 49	14		49 20 0		☉'s U. L.
						☉'s L. L.
					18 19 14, 14	☉'s L. L.
	51 37	21		49 20 0		☉'s U. L.
		22		55 0 0		☉'s L. L.
	32 41½	22 39 34		58 40 0		☉'s U. L.
24.		22 55 39	52 34	58 40 0		☉'s L. L.
				61 0 0		☉'s U. L.
	15 14	23		62 0 0		☉'s L. L.
	21 21	13 24 26		62 0 0		☉'s U. L.
	25 14	28 19		57 40 0		☉'s L. L.
	52 01½	13		56 0 0		☉'s U. L.
25.			9 51½	56 0 0		☉'s L. L.
		14 10 49½			18 24 18, 83	☉'s L. L.
		22 37 44		56 0 0		☉'s U. L.
			38 34½	57 40 0		☉'s L. L.
	56 34	22		62 0 0		☉'s U. L.
	23 22	23 20 17		60 20 0		☉'s L. L.
26.	27 16	24 9		58 20 0		☉'s U. L.
	43 30½	13 46 36	49 40½	56 0 0		☉'s L. L.
	47 23½	50 28	53 32	51 0 0		☉'s U. L.
	57 42	14 0 52½	3 47½	51 0 0		☉'s L. L.
	1 30½	4 36	7 41	56 0 0		☉'s U. L.
	14 13½	14 17 16	20 23	51 0 0		☉'s L. L.
27.	18 04	21 11	24 17	51 0 0		☉'s U. L.
	50 7½	14 53 19½	56 30½	51 0 0		☉'s L. L.
	54 8	57 21	0 34		18 34 22, 91	☉'s U. L.
						☉'s L. L.
	14 35	22 11 18½	8 7	51 0 0		☉'s U. L.
	18 43	15 24½	12 6			☉'s L. L.

Observations at Christmas Sound, Continued

1774	Equal Altitudes Times by the Clock B			Zenith Distance	Time of apparent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
		H			H	
Dec 26	50 38½	22 47 32		56 0 0		<div> <div> <div>O s L L</div> <div>O s U L</div> <div>O s L L</div> <div>O's U L</div> <div>O s L L</div> <div>O s U L</div> </div> </div>
	54 37	51 27	48 22			
	7 11½	23 4 7		58 20 0		
		8 0				
	21 23	23 18 18	15 9½	60 20 0		
	25 16½	22 12	19 9½			

* * The Clock was fixed up in the usual manner, and the pendulum vibrated 104 each way from the perpendicular

Meridian Zenith Distances of the Sun and Stars for the Latitude

1774	Zenith Distance				Exterior Arch reduced	Double Altitude of the O s L L	Baro meter	Therm	Remarks, &c				
	Interior Arch	Exterior Arch											
	°	'	G S V	+	°								
b Dec. 24	61	27	52	65	2	9	9	61	28	28½	29,63	45	γ Orionis
	54	51	27	58	2	2	20	54	51	50			
	53	59	7	57	2	11	12	53	59	24½			
	53	15	57	56	3	9	12	53	16	20½			
	62	41	5	66	3	15	23	62	41	39½			
b — 26	32	13	52	34	1	17	7	32	14	9	29,56	49	O s L L { Dollond's Qu d nt Ramden's do
	61	27	20	65	2	7	24	61	27	51			
	54	50	55	58	2	1	20	54	51	24			
	53	58	27	57	2	10	5	53	58	51			
	53	15	33	56	3	8	9	53	15	51			
δ — 27	62	40	51	66	3	14	18	62	41	8½	29,55	51	O's U L
	31	43	0	33	3	10	7	31	42	57			
						115 29 40							

Dollond's
Quadrant
Ramsden's do

Observations at Christmas Sound, Continued.

There being no convenient place within view of the Observatory, where I could fix up a proper mark for trying the line of collimation of the quadrant by, I took the following zenith distances of the summit of a distant mountain, and raised the stand of the quadrant just as much as its center was depressed by inverting it.

Quadrant direct.		Quadrant inverted and raised.		Computations of the Latitude.			
Interior Arch.	Exterior Arch.	Interior Arch.	Exterior Arch.	1774.	Latitude by the Interior Arch.	Exterior Arch.	By Hadley's Quadrant.
" " " G. S. V. +"	" " " G. S. V. +"	" " " G. S. V. +"	" " " G. S. V. +"		" " "	" " "	" " "
87 5 50	92 3 20 0	92 54 22	99 0 13 0	Dec. 26.	Ramlden's Quadrant		55 21 39
5 30	19 21	54 52	14 0		Dollond's ditto		55 21 6
5 30	19 13	54 22	13 0	27	Ramlden's ditto		55 21 25
5 33	19 17	53 52	12 0		The mean is		55 21 23
5 32	19 11	53 52	12 0		By the Sun.		
5 30	19 13	54 52	14 6	26.	55 22 17	55 22 27½	
5 55	19 0	54 40	13 18	27.	55 21 55½	55 21 46	55 22 6½
5 25	18 14	53 52	12 6		By γ Orionis.		
5 40	19 5	54 45	14 0	24.	55 22 4	55 22 34	
5 30	19 0	54 35	13 8	26.	55 21 33	55 21 57	55 22 2
5 25	17 20	54 45	13 23		By δ Orionis.		
Zenith Distance of the Top of a more distant Hill.				24.	55 21 53	55 22 9	
				26.	55 21 22	55 21 44	55 21 47
					By ε Orionis.		
88 40 56	94 2 11 23	91 19 0	97 1 19 22	24.	55 22 19	55 22 29	
41 1	12 8	19 0	20 21	26.	55 21 39	55 21 57	55 22 6
41 3	12 3	18 50	19 21		By ζ Orionis.		
40 43	11 21	18 50	20 0	24.	55 22 0½	55 22 17	
40 40	11 25	18 50	20 0	26.	55 21 37	55 21 48	55 21 56
The two first sets make the error of the line of collimation —"½ for the interior, and —5"½ for the exterior arches of the Quadrant; and the two latter sets make them +6"½ and —1"½ respectively: The means are +3"¼ and —3"¼.					By α Orionis.		
				24.	55 22 16	55 22 44	
				26.	55 22 4	55 22 13½	55 22 19½
					Mean of all		55 21 57 S.

Observations at Christmas Sound, Continued

Computations of the Clock's Rate of going

1774	Time of apparent Noon by the Clock	Syderial Time of apparent Noon	Clock too fast for Syderial Time	Clock gains on Syderial Time	If the difference between the first and last Observations be taken, and divided by 3, the number of days between, the Clock again each day, on Syderial Time will be only 36 ³ / ₁ . Mr Kendall's Watch appeared to be gaining, when here, at the rate of 12 ³ / ₁ , 377 in 24h on mean time.
	H	H			
8 Dec 23	18 19 14 14	18 4 24,7	14 49,44	0 37,99	
5 — 24	24 18 83	8 51,4	15 27,43	0 35,47	
3 — 26	34 22,91	17 44,55	16 38,36	0 36,73	

Lunar Observations for the Longitude of the Place

1774	Time by the Clock	Apparent Time	True Zenith Distance of ☉'s center	Zenith Distance of ☉'s U L	Distance of the ☉ and ☉'s Limbs	Error of the Quadrant	Barom	Thermom	Longitude East	Remarks
	H	H								
8 Dec 26	11 50 10	17 17 44	76 39 ³ / ₄	56 39 ³ / ₄	87 1 ¹ / ₂	+4 1	29,64	46	289 55 0	Dollond's Quad Hazy
	51 51			35 ³ / ₄	87 0 ³ / ₄					
	53 16			31 ¹ / ₄	87 0					
	54 26			29	86 59 ³ / ₄					
	55 25			26 ¹ / ₄	59					
	56 29			23 ¹ / ₄	59					
	57 42			20	58 ¹ / ₂					
	58 26			18	58					
	59 25			16 ³ / ₄	57 ¹ / ₄					
	12 0 25			13 ³ / ₄	57					
	12 3 16	17 29 32	75 2 ³ / ₄	56 8	87 0 ¹ / ₄	+1 0	29,64	46	290 27 45	Ramsden's Quad Hazy
	4 29			5 ³ / ₄	87 0					
	5 19			4	87 0					
	6 14			2	86 59 ¹ / ₂					
	7 10			56 0	59					
	8 5			55 58	59					
	9 4			56	58 ¹ / ₂					
	9 52			54	58 ³ / ₄					
	10 42			52 ¹ / ₄	58					
	11 51			50	57 ¹ / ₂					

Observations at Christmas Sound, Continued.

Lunar Observations for the Longitude of the Place.

1774.	Time by the Clock.	Apparent Time.	True Zenith Distance of ☉'s center.	Zenith Distance of ☉'s U. L.	Distance of the ☉ and ☉'s Limbs.	Error of the Quadrant.	Barom.	Thermom.	Longitude East.	Remarks.
	H M S	H M S	° ' "	° ' "	° ' "	" "			° ' "	
Dec. 26.	13 29 49	18 53 39	63 25	55 38½	86 30	+ 1 0	29,60	47	290 43 30	Ramfden's Quad.
	31 14			40½	29½					
	32 12			42	29½					
	32 56			43½	29					
	34 3			45½	28½					
	13 36 38	19 0 15	62 29	55 49½	86 22½	+ 4 2	29,60	47	289 43 0	Dollond's Quad.
	37 29			51	22½					
	38 18½			52½	22					
	39 4			54	21½					
	39 46			55½	21½					
	40 35			56½	21					

The mean result of these four is $290^{\circ} 16' 25''$. The mean of ten Observations taken before we arrived here, and reduced to the place by Mr. Kendall's Watch, gave the Longitude of the Observatory $289^{\circ} 52' 52''$; seven taken after leaving the place gave $289^{\circ} 42' 12''$; the mean of the three is $289^{\circ} 57' 9\frac{1}{2}''$ E.

Observations at Chislmars Sound, Continued

Observed Azimuths of the Sun's Center for the Variation of the Compass

1774	Zenith Distance of the O s U L	Azimuth of the O s center	Vari- ation East	1774	Zenith Distance of the O U L	Azimuth of the O s center	Vari- ation East
2 Dec 23	Gregory's Comps			20 Dec 25	Knight's Comps		
	62 11 $\frac{1}{2}$	S 67 15 W			63 36 $\frac{1}{2}$	N 68 35 E	
	62 20 $\frac{1}{2}$	66 10			63 30 $\frac{1}{2}$	68 45	24 2
	62 25 $\frac{1}{2}$	68 45			63 21 $\frac{1}{2}$	68 50	
	62 31 $\frac{1}{2}$	65 15	20 59		62 32 $\frac{1}{2}$	N 68 25 E	
	62 45 $\frac{1}{2}$	63 45			62 24 $\frac{1}{2}$	68 0	24 13
	63 39	64 20			62 19	67 55	
	64 3	69 35		26	70 5	N 80 15 E	
	Knight's Comps				69 53 $\frac{1}{2}$	80 0	
5 — 24	64 7 $\frac{1}{2}$	S 61 50 W			69 10	79 55	22 51
	64 44	60 30			69 38	79 30	
	64 50	59 55			69 30	79 15	
	65 1 $\frac{1}{2}$	59 45	23 54 $\frac{1}{2}$		69 25	79 5	
	65 9 $\frac{1}{2}$	59 45			Gregory's Comps		
	65 17 $\frac{1}{2}$	59 25			68 35	N 73 55 E	
	Gregory's Comps				68 21	75 50	
	65 38	S 57 20 W			68 15 $\frac{1}{2}$	76 5	25 23
	65 43 $\frac{1}{2}$	54 20			68 3 $\frac{1}{2}$	77 0	
	65 56 $\frac{1}{2}$	56 10	27 17		67 52 $\frac{1}{2}$	76 50	
	66 11	54 35			67 46	72 0	

The disagreement which is found amongst these variations is not to be attributed to any mistake in the Observations, for the Compasses, and especially that of Gregory's, would, while here point frequently five, six, and sometimes even eight and ten degrees different when directed to the same object. I cannot assign any reason for this strange circumstance; the Compasses performed well enough both before and after leaving the place.

Observations for the Dip of the Needle at South End

1774		Face of the Instrument		1774		Face of the Instrument	
East	West	East	West	East	West	East	West
4 Dec 23	66 20	68 0					
	66 50	67 03	Altered the Balance			Changed the Pole	
	Changed the Pole		65 03	66 15	6 Dec 23	67 50	67 30
	63 25	67 0	65 35	65 50		67 45	66 55
	64 10	66 55	65 25	66 05		67 20	67 0
	66 0	66 45	Changed the Pole			Changed the Pole	
	69 10	66 30	67 10	66 15		65 40	66 20
			67 35	67 15		67 15	66 30
			66 40	67 15		66 25	6 25
						The mean of all is 66 5 6	

Observations at Christmas Sound, Continued.

Observations on the Tides.

1774.	Time by the Clock.	Apparent Time.	Height of the Water.	Remarks, &c.	1774.	Time by the Clock.	Apparent Time.	Height of the Water.	Remarks, &c.
	H	H	F. l.			H	H	F. l.	
24 Dec. 22.			0 6 $\frac{1}{2}$	Low Water.	24 Dec. 24.	23 38		2 3	
	23 15		1 10					3 3	High Water, Evening
	23 32		2 0					4 4 $\frac{1}{2}$	Ditto, Morning.
	0 30 $\frac{1}{2}$	6 15 $\frac{1}{2}$	2 4 $\frac{1}{2}$	High Water.	25.			1 3 $\frac{1}{2}$	Low Water.
	1 16		2 0					4 1	High Water, Evening.
	1 40		1 10						The mark was again disturbed by the boats.
	10 40		3 4			18 14		2 4 $\frac{1}{2}$	
	10 56		3 7			18 33		2 2	
	11 14 $\frac{1}{2}$	17 26 $\frac{1}{2}$	3 8 $\frac{1}{2}$	High Water.	26.	18 50		1 11 $\frac{1}{2}$	
	11 30		3 7			19 4		1 10	
	12 8		3 4			19 20		1 9	
				The mark was disturbed by the boats.		21 20 $\frac{1}{2}$	2 45 $\frac{1}{2}$	1 2	Low Water.
25.			0 5	Low Water.		23 28		1 9	
	23 36		1 9			23 40		1 10	
	23 43		2 4			23 50		1 11 $\frac{1}{2}$	
	0 2		2 5 $\frac{1}{2}$			0 6		2 2	
	0 13		2 6 $\frac{1}{2}$			0 20		2 4 $\frac{1}{2}$	
	1 37 $\frac{1}{2}$	7 17 $\frac{1}{2}$	2 8 $\frac{1}{2}$	High Water.		2 40		3 5	
	3 2		2 6 $\frac{1}{2}$			2 56		3 6	
	3 15		2 5 $\frac{1}{2}$			3 51 $\frac{1}{2}$	9 15	3 9	High Water.
	3 31		2 4			4 45		3 6	
	11 15		3 8 $\frac{1}{2}$			5 5		3 5	
	11 40		3 9			12 15		3 0	
	12 19 $\frac{1}{2}$	17 56 $\frac{1}{2}$	3 10	High Water.		12 30		3 1 $\frac{1}{2}$	
	13 7		3 9			12 45		3 2 $\frac{1}{2}$	
	13 12		3 8 $\frac{1}{2}$			13 20		3 4 $\frac{1}{2}$	
	15 53		2 3			15 8 $\frac{1}{2}$	21 29 $\frac{1}{2}$	3 10 $\frac{1}{2}$	High Water.
	16 28		1 11			17 7		3 4 $\frac{1}{2}$	
	16 42		1 7 $\frac{1}{2}$			17 30		3 2 $\frac{1}{2}$	
26.	19 47 $\frac{1}{2}$	1 23 $\frac{1}{2}$	0 5 $\frac{1}{2}$	Low Water.		17 40		3 1 $\frac{1}{2}$	
	22 50		1 7 $\frac{1}{2}$			18 0		3 0	
	23 15		1 11		27.			1 2 $\frac{1}{2}$	Low Water.

From these Observations, it appears that the Moon passes the meridian about 2 $\frac{1}{2}$ hours before it is high water at this place: Mean height of the morning tides, three feet 1 $\frac{7}{8}$ inches, the Moon being then above the horizon, the mean evening tide was two feet seven inches.

Observations made at the Cape of Good Hope

1775	Equal Altitudes Times by the Clock B			Zenith Distance	Azimuth of ☉'s center from the North at the times of equal Altitudes			Time of ap- parent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire.	Upper Wire.		Lower Wire	Middle Wire	Upper Wire		
	H	H	H		o				
March 23	2 6 $\frac{1}{2}$	17 4 19 $\frac{1}{2}$	6 31 $\frac{1}{2}$	71 40 c					☉ U I } Easterly
	4 51 $\frac{1}{2}$	7 2	9 13 $\frac{1}{2}$						☉ I I }
29	31 49	17 31 17	33 31 $\frac{1}{2}$	66 20 o					☉ U I } Easterly
24	34 16 $\frac{1}{2}$	1 32 2 $\frac{1}{2}$	36 17 $\frac{1}{2}$					21 33 15,73	☉ I I, } Easterly
	37 2 $\frac{1}{2}$	34 49	32 36 $\frac{1}{2}$	66 20 o					☉ U I } Easterly
	1 13	1 59 2 $\frac{1}{2}$	56 53	71 40 o					☉ L I } Easterly
	3 57 $\frac{1}{2}$	2 1 46 $\frac{1}{2}$	59 36	66 o o					☉ U L } Easterly
	34 54	17 37 10 $\frac{1}{2}$	39 23 $\frac{1}{2}$					21 36 12,22	☉ U L } Easterly
25	37 41 $\frac{1}{2}$	39 57 $\frac{1}{2}$	42 10 $\frac{1}{2}$	66 o o					☉ L L } Easterly
	34 17 $\frac{1}{2}$	1 32 2		66 o o					☉ L L } Easterly
	54 42 $\frac{1}{2}$	17 56 58	59 15 $\frac{1}{2}$	63 o o					☉ U L } Easterly
26	57 31 $\frac{1}{2}$	59 49 $\frac{1}{2}$	2 8					21 39 7,95	☉ U L } Easterly
	20 19	1 18 1 $\frac{1}{2}$		63 o o					☉ L L } Very hazy
	23 10 $\frac{1}{2}$	20 53	18 36 $\frac{1}{2}$						☉ I L } Easterly
In the morning I found the Clock had stopped, occasioned by the thickness of a new glass which I had got put before its face the old one being broke in taking down the Clock at Oubelle									
	39 20 $\frac{1}{2}$	20 41 39 $\frac{1}{2}$	43 56 $\frac{1}{2}$	63 o o					☉ U I, } Easterly
	42 13	14 31 $\frac{1}{2}$	46 49 $\frac{1}{2}$						☉ L, I, } Easterly
	51 44 $\frac{1}{2}$	20 54 5 $\frac{1}{2}$		60 40 o					☉ U I } Easterly
27	54 39 $\frac{1}{2}$	57 0 $\frac{1}{2}$						0 22 28 6	☉ L, I } Easterly
	49 55 $\frac{1}{2}$	3 47 32	45 12	60 40 o					☉ I I } Easterly
	2 19 $\frac{1}{2}$	4 0 1 $\frac{1}{2}$	57 43 $\frac{1}{2}$	63 o o					☉ U I } Easterly
	5 12		0 36						☉ L L } Easterly
	10 6 $\frac{1}{2}$	20 42 24	44 41 $\frac{1}{2}$	63 40 o					☉ U I } Easterly
	50 42	20 45 15 $\frac{1}{2}$	47 33						☉ U I } Easterly
28	53 35 $\frac{1}{2}$	55 55 $\frac{1}{2}$	58 16	61 40 o					☉ I I } Easterly
	56 48 $\frac{1}{2}$	3 54 30 $\frac{1}{2}$	52 8 $\frac{1}{2}$	61 40 o				0 25 24,71	☉ L L } Easterly
	59 42 $\frac{1}{2}$	57 23 $\frac{1}{2}$	55 5 $\frac{1}{2}$						☉ U L } Easterly
	7 26 $\frac{1}{2}$	4 5 8		63 40 o					☉ L L } Easterly
	10 18 $\frac{1}{2}$	20 57 21	59 41 $\frac{1}{2}$	61 40 o					☉ U I } Easterly
	55 59 $\frac{1}{2}$	21 0 16	2 37					0 28 19,36	☉ L L } Easterly
29	57 54 $\frac{1}{2}$								☉ U L } Easterly
	38 19 $\frac{1}{2}$	3 55 58 $\frac{1}{2}$	53 37 $\frac{1}{2}$	61 40 o					☉ L L } Easterly
	1 1 $\frac{1}{2}$	58 53 $\frac{1}{2}$	56 34 $\frac{1}{2}$						☉ U L } Easterly
	38 1 $\frac{1}{2}$	20 40 21	42 38	63 40 o					☉ U I } Easterly
30	40 54	43 13	45 30 $\frac{1}{2}$					0 31 14 19	☉ L L } Easterly
	21 8 $\frac{1}{2}$	4 18 51	16 33	65 40 o					☉ L L } Easterly
	24 0 $\frac{1}{2}$	21 42	19 26						☉ U L } Easterly
	15 21	20 37 37 $\frac{1}{2}$	39 51 $\frac{1}{2}$	67 o o					☉ U, L } Easterly
31	18 8	40 26 $\frac{1}{2}$	42 41 $\frac{1}{2}$					0 34 10,68	☉ L L } Easterly

Observations at the Cape of Good Hope, Continued.

1775.	Equal Altitudes. Times by the Clock B.			Zenith Distance.	Azimuth of ☉'s center from the North, at the times of equal Altitudes.			Time of ap- parent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.		Lower Wire.	Middle Wire.	Upper Wire.		
♀ March 31.	29 46½ 32 36	4 27 29½ 30 19 20 43 32½ 46 22½	25 13 28 4 45 49½ 48 41	67 0 0 66 40 0					☉'s L. L. } Westerly. ☉'s U. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
♂ April 1.	44 4½ 29 40½ 32 31 31 32½ 34 21½ 45 27½ 48 18½	4 27 22½ 30 17 20 33 48½ 36 38 47 45½ 50 37	25 5½ 27 57½ 38 54 50 2½ 52 56	66 40 0 69 20 0 66 40 0				0 37 55,75	☉'s L. L. } Westerly. ☉'s U. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
☉ — 2.	31 16 34 8½ 48 2½ 6 12½ 9 32½	4 28 57½ 31 50 42 58 8 55 12 16	26 40 29 32½ 40 41½ 11 35½ 14 58½	66 40 0 69 20 0 54 40 0				0 40 0,27	☉'s L. L. } Westerly. ☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. }
♂ — 4.	27 57 30 38 43 0½ 45 49½ 57 3½ 59 56	3 24 52½ 28 16 20 45 17½ 48 6 20 59 23½ 21 2 17½	22 9 25 34 47 34 50 24½ 1 43 4 36½	54 40 0 70 20 0 67 40 0				0 48 46,31	☉'s L. L. } Westerly. ☉'s U. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
♀ — 5.	42 57½ 45 52 57 6½ 59 56 55 54½ 58 49½ 10 14½ 13 8½	4 40 38½ 43 31½ 4 54 46½ 57 39½ 20 58 1½ 21 1 8½ 21 12 36½ 15 32½	41 12½ 52 31 55 21 0 35½ 3 28½ 14 57½	67 40 0 70 20 0 68 40 0 66 0 0	89 10 88 25 86 45 86 15 85 55	89 30 87 45 86 15 85 55		0 51 40,5	☉'s L. L. } Westerly. ☉'s U. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
♂ — 6.	35 41 38 36½ 49 57½ 55 37 58 27 9 40½ 12 44½	4 33 18 36 15 4 47 40½ 50 32 20 57 55 21 0 45 21 12 11½ 15 7½	30 56 33 53½ 45 21 48 14½ 0 12½ 3 4½ 14 32 17 27½	66 0 0 68 40 0 70 20 0 67 40 0	Var. 43 30 43 50 45 55	21 32½ 42 30 45 40 46 0	West.	0 54 37,38	☉'s L. L. } Westerly. ☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. }
♀ — 7.	47 54½ 50 52½ 2 11 5 1½ 6 54 9 48½	4 45 33½ 48 28½ 4 59 55½ 5 2 43 21 9 10½ 12 10½	43 11½ 46 8½ 57 32 0 24½ 11 35½ 14 31½	67 40 0 70 20 0 69 0 0				1 0 32,08	☉'s L. L. } Westerly. ☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. }
♂ — 8.	56 43 59 38	4 54 22½ 57 17	52 2½ 54 57	69 0 0				1 3 29,16	☉'s L. L. } Westerly. ☉'s U. L. }

Observations at the Cape of Good Hope, Continued

1775	Equal Altitudes Times by the Clock B			Zenith Distance	Azimuth of the Center from the North at the Times of equal Altitude			Time of Apparent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire		Lower Wire	Middle Wire	Upper Wire		
8 April 12	17 54 $\frac{1}{2}$	21 20 20	22 42	69 20 0				11	☉ : U L } Easterly ☉ : L L } ☉ : U L } ☉ : L L }
14 — 13	20 53	23 15 $\frac{1}{2}$	25 39	66 40 0				1 12 29.72	☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
20 — 14	32 54 $\frac{1}{2}$	21 35 0	37 25 $\frac{1}{2}$	69 20 0				1 18 29 49	☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
25 — 15	35 33 $\frac{1}{2}$	38 0 $\frac{1}{2}$		70 20 0					☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
30 — 16	49 1 $\frac{1}{2}$	4 46 35	44 7 $\frac{1}{2}$	66 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
5 — 17	52 1	49 35	47 10	69 20 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
10 — 18	3 39	5 1 18	58 55 $\frac{1}{2}$	70 20 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
15 — 19	6 36 $\frac{1}{2}$	4 12 $\frac{1}{2}$	1 51 $\frac{1}{2}$	70 20 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
20 — 20	21 8 $\frac{1}{2}$	21 23 30 $\frac{1}{2}$	28 49 $\frac{1}{2}$	58 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
25 — 21	24 3 $\frac{1}{2}$	26 26 $\frac{1}{2}$	7 45	58 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
30 — 22	12 30 $\frac{1}{2}$	5 10 7 $\frac{1}{2}$	10 42	58 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
5 — 23	15 24	13 3	10 42	58 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
10 — 24	The Clock stopped again to day for a few seconds by the glass pressing against the minute hand								☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
15 — 25	37 15 $\frac{1}{2}$	22 40 4	42 52 $\frac{1}{2}$	58 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
20 — 26	40 43	43 33 $\frac{1}{2}$		58 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
25 — 27	6 41 $\frac{1}{2}$	4 3 51 $\frac{1}{2}$	1 1 $\frac{1}{2}$	58 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
30 — 28	10 9 $\frac{1}{2}$	7 21	4 33 $\frac{1}{2}$	58 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
5 — 29	24 4 $\frac{1}{2}$	23 27 31 $\frac{1}{2}$	30 58	58 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
10 — 30	28 18 $\frac{1}{2}$	31 47 $\frac{1}{2}$	35 17 $\frac{1}{2}$	58 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
15 — 31		3 21 37	18 7	58 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
20 — 32		25 58	32 29	58 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
25 — 33	39 32 $\frac{1}{2}$	21	44 21	70 0 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
30 — 34	42 30	21 44 56	47 21	67 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
5 — 35	52 35	21 55 4 $\frac{1}{2}$	57 31	67 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
10 — 36	55 40		0 26	67 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
15 — 37	3 53	5 1 23	58 55	67 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
20 — 38	6 59 $\frac{1}{2}$	4 27 $\frac{1}{2}$	2 1	70 0 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
25 — 39	17 1	5 14 35	12 11	68 0 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
30 — 40	20 2 $\frac{1}{2}$	17 35 $\frac{1}{2}$	15 11 $\frac{1}{2}$	68 0 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
5 — 41	55 4	21 57 34 $\frac{1}{2}$	0 3	68 0 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
10 — 42	58 7 $\frac{1}{2}$	22 0 38	3 6	68 0 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
15 — 43		5 4 56	2 29	68 0 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
20 — 44	10 29	7 57 $\frac{1}{2}$	5 33	68 0 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
25 — 45	6 17 $\frac{1}{2}$	22 8 48 $\frac{1}{2}$	11 18	68 20 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
30 — 46	9 22	11 53 $\frac{1}{2}$	14 24 $\frac{1}{2}$	68 20 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
5 — 47	14 26	5 11 54 $\frac{1}{2}$		68 20 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
10 — 48	17 32 $\frac{1}{2}$	15 11	12 31	68 20 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }

The Clock was fixed up in the usual manner

The pendulum vibrated $1^{\circ}\frac{1}{2}$ each way from the perpendicular, until April 9, after which its vibrations were $1^{\circ}\frac{1}{2}$ each way until it was taken down

Observations at the Cape of Good Hope, Continued.

Observed Times of the transits of the Sun, Moon, and Stars, over the Meridian.

1775.	Times by the Clock B.					Phenomena.
	First Wire.	Second Wire.	Middle Wire.	Fourth Wire.	Fifth Wire.	
	" "	" "	H " "	" "	" "	
☉ March 26.	33 23 $\frac{1}{2}$	34 5 $\frac{1}{2}$ 36 14	21 34 48 36 56 $\frac{1}{2}$	35 31 37 39 $\frac{1}{2}$	38 21 $\frac{1}{2}$	☉'s 1st Limb. ☉'s 2d Limb.
	Moved the stand of the Instrument a small matter, so as to carry it to the westward, and fixed it very firmly.					
☽ — 27.	20 9 $\frac{1}{2}$	20 51 $\frac{1}{2}$ 23 0 $\frac{1}{2}$	0 21 34 $\frac{1}{2}$ 0 23 43	22 17 $\frac{1}{2}$ 24 26 $\frac{1}{2}$	25 8 $\frac{1}{2}$	☉'s 1st Limb. ☉'s 2d Limb.
	Moved the Instrument, by means of the screw, to the eastward.					
♂ — 28.	31 54 $\frac{1}{2}$ 24 17 23 1 $\frac{1}{2}$	32 38 24 59 $\frac{1}{2}$ 23 43 25 52 $\frac{1}{2}$ 0 31 $\frac{1}{2}$ 39 47 $\frac{1}{2}$ 31 56 $\frac{1}{2}$ 16 54 24 16 $\frac{1}{2}$ 28 13 $\frac{1}{2}$ 36 12 53 38 26 37 $\frac{1}{2}$	6 33 23 7 25 42 0 24 25 $\frac{1}{2}$ 0 26 34 $\frac{1}{2}$ 5 1 14 5 40 29 $\frac{1}{2}$ 6 32 41 7 17 44 7 24 59 7 29 1 $\frac{1}{2}$ 19 36 55 22 54 21 $\frac{1}{2}$ 0 27 20 0 29 29 $\frac{1}{2}$ 5 0 31 5 39 47 $\frac{1}{2}$ 6 31 58 19 36 11 0 30 14 $\frac{1}{2}$ 0 32 24 $\frac{1}{2}$ 5 39 4 6 31 14 $\frac{1}{2}$	34 7 $\frac{1}{2}$ 26 25 25 9 27 17 $\frac{1}{2}$ 1 58 41 14 $\frac{1}{2}$ 33 26 18 35 $\frac{1}{2}$ 25 42 $\frac{1}{2}$ 29 51 37 38 $\frac{1}{2}$ 55 6 $\frac{1}{2}$	34 51 27 7 27 59 $\frac{1}{2}$ 2 39 $\frac{1}{2}$ 41 55 $\frac{1}{2}$ 34 9 19 24 $\frac{1}{2}$ 26 24 $\frac{1}{2}$ 30 38 $\frac{1}{2}$ 55 48 $\frac{1}{2}$	Syrius. Procyon. ☉'s 1st Limb. ☉'s 2d Limb. Rigel. α Orionis. Syrius. Castor. Procyon. Pollux. α Aquilæ. ☉'s 2d Limb. ☉'s 1st L. } Capt. Cook ☉'s 2d L. } Rigel. α Orionis. Syrius. α Aquilæ, cloudy. ☉'s 1st L. } Cloudy. ☉'s 2d L. } α Orionis. Syrius.
♀ — 29.	52 54 $\frac{1}{2}$ 59 5 $\frac{1}{2}$ 30 29 $\frac{1}{2}$	53 38 59 48 31 13 $\frac{1}{2}$	22 54 21 $\frac{1}{2}$ 0 27 20 0 29 29 $\frac{1}{2}$ 5 0 31 5 39 47 $\frac{1}{2}$ 6 31 58 19 36 11 0 30 14 $\frac{1}{2}$ 0 32 24 $\frac{1}{2}$ 5 39 4 6 31 14 $\frac{1}{2}$	30 12 $\frac{1}{2}$ 1 14 $\frac{1}{2}$ 40 31 32 42 $\frac{1}{2}$ 30 58 $\frac{1}{2}$ 33 7 $\frac{1}{2}$ 39 47 31 59 $\frac{1}{2}$	1 56 $\frac{1}{2}$ 33 26 33 48 $\frac{1}{2}$ 40 29 32 42 $\frac{1}{2}$	☉'s 1st L. } Capt. Cook ☉'s 2d L. } Rigel. α Orionis. Syrius. α Aquilæ, cloudy. ☉'s 1st L. } Cloudy. ☉'s 2d L. } α Orionis. Syrius.
♂ — 30.	28 50 $\frac{1}{2}$ 37 38 $\frac{1}{2}$ 29 46 $\frac{1}{2}$	29 32 31 41 $\frac{1}{2}$ 38 21 $\frac{1}{2}$ 30 30	0 30 14 $\frac{1}{2}$ 0 32 24 $\frac{1}{2}$ 5 39 4 6 31 14 $\frac{1}{2}$	30 58 $\frac{1}{2}$ 33 7 $\frac{1}{2}$ 39 47 31 59 $\frac{1}{2}$	33 48 $\frac{1}{2}$ 40 29 32 42 $\frac{1}{2}$	☉'s 1st L. } Capt. Cook ☉'s 2d L. } Rigel. α Orionis. Syrius.
	Moved the Instrument a little more to the eastward, by means of the horizontal screw.					
♀ — 31.	31 43 $\frac{1}{2}$ 33 52 34 38 $\frac{1}{2}$ 36 47 $\frac{1}{2}$ 13 8 20 39 $\frac{1}{2}$	32 24 $\frac{1}{2}$ 34 33 $\frac{1}{2}$ 35 21 37 30 13 57 21 22 $\frac{1}{2}$	0 23 8 0 35 17 0 36 3 $\frac{1}{2}$ 0 38 13 7 14 47 $\frac{1}{2}$ 7 22 4 $\frac{1}{2}$ 7 26 5 $\frac{1}{2}$ 9 11 2 $\frac{1}{2}$ 9 50 52 $\frac{1}{2}$	33 51 36 0 $\frac{1}{2}$ 36 47 38 56 15 39 22 48 11 46 51 37	34 33 36 42 $\frac{1}{2}$ 37 28 $\frac{1}{2}$ 39 37 $\frac{1}{2}$ 16 28 23 29 $\frac{1}{2}$ 12 27 $\frac{1}{2}$	☉'s 1st Limb. ☉'s 2d Limb. ☉'s 1st Limb. ☉'s 2d Limb. Castor. Procyon. Pollux. α Hydra. Regulus.
♂ April 1.	9 37 50 9	10 19 $\frac{1}{2}$ 50 9	9 11 2 $\frac{1}{2}$ 9 50 52 $\frac{1}{2}$	11 46 51 37	12 27 $\frac{1}{2}$	☉'s 1st Limb. ☉'s 2d Limb.

Observations at the Cape of Good Hope, Continued

Observed Times of the Transits of the Sun, Moon, and Stars over the Meridian

1775	Times by the Clock B					Phenomena
	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	
			H			
○ April 2	37 32 $\frac{1}{2}$	38 15	0 38 57 $\frac{1}{2}$	39 41		○ s 1st L imb
		40 24 $\frac{1}{2}$	0 41 7 $\frac{1}{2}$	41 50 $\frac{1}{2}$	42 31 $\frac{1}{2}$	○ s 2d L imb
	27 52 $\frac{1}{2}$	28 36	2 29 20 $\frac{1}{2}$	30 5	30 48 $\frac{1}{2}$	○ s 1st L imb
	15 28 $\frac{1}{2}$	16 12 $\frac{1}{2}$	4 16 56 $\frac{1}{2}$	17 41	18 24 $\frac{1}{2}$	Aldebaran
		56 54	4 57 36 $\frac{1}{2}$	58 20		Rigel
	35 27	36 9 $\frac{1}{2}$	5 36 52 $\frac{1}{2}$	37 36	38 17 $\frac{1}{2}$	α Orionis
	27 36	28 19 $\frac{1}{2}$	6 29 4	29 48 $\frac{1}{2}$	30 32 $\frac{1}{2}$	Syrus
	12 23 $\frac{1}{2}$	13 12 $\frac{1}{2}$	7 14 3 $\frac{1}{2}$	14 54 $\frac{1}{2}$	15 43 $\frac{1}{2}$	Castor
	19 55 $\frac{1}{2}$	20 37 $\frac{1}{2}$	7 21 20 $\frac{1}{2}$	22 3 $\frac{1}{2}$	22 45	Procyon
		24 33	7 25 21 $\frac{1}{2}$	26 10 $\frac{1}{2}$		Pollux
☾ — 3	40 28 $\frac{1}{2}$	41 10	0 41 53	42 36 $\frac{1}{2}$		○ s 1st L } Cloudy
		43 19	44 2 $\frac{1}{2}$	44 45 $\frac{1}{2}$	45 25 $\frac{1}{2}$	○ s 2d L }
☾ — 4	43 23 $\frac{1}{2}$	44 6	0 44 48 $\frac{1}{2}$	45 31 $\frac{1}{2}$		○ s 1st L } Cloudy
		46 15 $\frac{1}{2}$	0 46 58 $\frac{1}{2}$	47 41 $\frac{1}{2}$	48 23 $\frac{1}{2}$	○ s 2d L }
☾ — 5	46 19 $\frac{1}{2}$	47 1 $\frac{1}{2}$	0 47 44	48 27 $\frac{1}{2}$		○ s 1st L } Cloudy
		49 11	0 49 53 $\frac{1}{2}$	50 36 $\frac{1}{2}$	51 16 $\frac{1}{2}$	○ s 2d L }
	13 19 $\frac{1}{2}$	14 3	4 14 47 $\frac{1}{2}$	15 32 $\frac{1}{2}$	16 15 $\frac{1}{2}$	Aldebaran
	54 2 $\frac{1}{2}$	54 44 $\frac{1}{2}$	4 55 27 $\frac{1}{2}$	56 11 $\frac{1}{2}$	56 53	Rigel
	5 41 $\frac{1}{2}$	6 27	5 7 13	7 59 $\frac{1}{2}$	8 44	○ s 1st L imb
	33 17 $\frac{1}{2}$	34 0 $\frac{1}{2}$	5 34 44	35 20 $\frac{1}{2}$	36 8 $\frac{1}{2}$	α Orionis
	25 27	26 11	6 26 55 $\frac{1}{2}$	27 40	28 23	Syrus
	10 13 $\frac{1}{2}$	11 3 $\frac{1}{2}$	7 11 54	12 44 $\frac{1}{2}$	13 34	Castor
	17 46	18 28 $\frac{1}{2}$	7 19 11	19 54 $\frac{1}{2}$	20 36	Procyon
		22 23 $\frac{1}{2}$	7 23 12	24 1 $\frac{1}{2}$		Pollux
☾ — 6	49 14 $\frac{1}{2}$	49 56 $\frac{1}{2}$	0 50 39	51 39		○ s 1st L imb
		52 5 $\frac{1}{2}$	52 48 $\frac{1}{2}$	53 32 $\frac{1}{2}$	54 19 $\frac{1}{2}$	○ s 2d L
	12 36 $\frac{1}{2}$	13 19 $\frac{1}{2}$	4 14 3 $\frac{1}{2}$	14 48 $\frac{1}{2}$	15 31 $\frac{1}{2}$	Aldebaran
	32 34	33 15 $\frac{1}{2}$	5 33 59 $\frac{1}{2}$	34 43	35 25 $\frac{1}{2}$	α Orionis
	57 43 $\frac{1}{2}$	58 29	5 59 15 $\frac{1}{2}$	0 2 $\frac{1}{2}$	0 46 $\frac{1}{2}$	○ s 1st Limb
		25 27 $\frac{1}{2}$	6 26 11 $\frac{1}{2}$	26 57		Syrus
	9 29 $\frac{1}{2}$	10 19 $\frac{1}{2}$	7 11 9 $\frac{1}{2}$	12 1	12 50	Castor
On examining the Transit Instrument this morning, I found that the level						
shewed the west end to be a small matter the highest Adjusted it, and						
moved the Instrument a little more to the eastward as well to be nearer the						
plane of the Meridian, as to make the middle wire coincide with the sharp						
edge of a cliff in the Table Mountain which being seen against the sky,						
formed a much better Meridian Mark than what I had before.						
☾ — 7	54 18	55 0 $\frac{1}{2}$	0 53 33 $\frac{1}{2}$	54 16 $\frac{1}{2}$	54 59	○ s 1st L } Cloudy
			0 55 42 $\frac{1}{2}$			○ s 2d L }
☾ — 8	52 34 $\frac{1}{2}$	53 17 $\frac{1}{2}$	4 54 0 $\frac{1}{2}$	54 43 $\frac{1}{2}$	55 25 $\frac{1}{2}$	Rigel
		0 52 $\frac{1}{2}$	5 1 40 $\frac{1}{2}$	2 29 $\frac{1}{2}$		β Tauri

Observations at the Cape of Good Hope, Continued

Observed Times of the Transits of the Sun, Moon, and Stars, over the Meridian

1775	Times by the Clock B					Phenomena, &c
	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	
	"	"	H	"	"	
4 April 13	9 53 $\frac{1}{2}$	10 41	1 11 24 $\frac{1}{2}$			O s 1st Limb
			13 34 $\frac{1}{2}$	14 18	15 0 $\frac{1}{2}$	O's 2d Limb
		5 28 $\frac{1}{2}$	6 21 21			Syrius
		12 54	7 6 18 $\frac{1}{2}$	7 0 $\frac{1}{2}$		Castor
			7 13 37	14 20 $\frac{1}{2}$		Procyon
			7 17 37 $\frac{1}{2}$			Pollux
	1 10 $\frac{1}{4}$	1 52 $\frac{1}{4}$	9 2 45 $\frac{1}{2}$	3 19	4 1	α Hydræ
			11 24 58 $\frac{1}{2}$			β Virginis
	44 44 $\frac{1}{2}$	45 26 $\frac{1}{2}$	11 46 11	46 55	47 37	γ s 1st Limb Topsy
	57 53 $\frac{1}{2}$		12 59 10 $\frac{1}{2}$	0 4	0 45 $\frac{1}{2}$	Spica α Very foggy
8 — 14	1 59	13 41 $\frac{1}{2}$	1 14 20			O s 1st Limb
			16 34 $\frac{1}{2}$	17 18 $\frac{1}{2}$	18 0 $\frac{1}{4}$	O s 2d Limb
	3 58 $\frac{1}{2}$	4 47 $\frac{1}{2}$	7 5 36 $\frac{1}{2}$	6 29 $\frac{1}{2}$	7 18 $\frac{1}{2}$	Castor
		12 14	7 12 56 $\frac{1}{2}$	13 40		Procyon
			7 16 56 $\frac{1}{2}$			Pollux
		1 12	9 1 56 $\frac{1}{2}$	2 39		α Hydræ
	22 53 $\frac{1}{2}$	23 36	11 24 18 $\frac{1}{2}$	25 2	25 43 $\frac{1}{2}$	β Virginis
			12 36 50			γ Virginis
6 — 15	57 14	57 56 $\frac{1}{2}$	12 58 39 $\frac{1}{2}$	59 23	0 16	Spica Virginis
		16 42 $\frac{1}{2}$	1 17 25 $\frac{1}{2}$	18 9 $\frac{1}{2}$		O s 1st Limb
		18 52 $\frac{1}{2}$	19 36	20 19 $\frac{1}{2}$		O s 2d Limb
	3 18	4 7 $\frac{1}{2}$	7 4 58	5 49	6 38	Castor
			7 12 16 $\frac{1}{2}$			Procyon
			9 1 15			α Hydræ
	56 33 $\frac{1}{2}$	57 15	12 57 59 $\frac{1}{2}$	58 43 $\frac{1}{2}$	59 25 $\frac{1}{2}$	Spica Virginis
	25 33	26 16 $\frac{1}{2}$	13 27 0	27 41		γ s 1st L 2h 18 past the 8
		28 26 $\frac{1}{2}$	29 10 $\frac{1}{2}$	29 55	30 37	γ s 2d Limb
	48 30	49 14	13 49 59 $\frac{1}{2}$	50 45 $\frac{1}{2}$	51 30	Arcturus
O — 16	18 22 $\frac{1}{2}$	19 5 $\frac{1}{2}$	1 19 48 $\frac{1}{2}$			O s 1st Limb
			21 58	22 42 $\frac{1}{2}$	23 24 $\frac{1}{2}$	O s 2d Limb
D — 17	21 23 $\frac{1}{2}$	22 6	1 22 49 $\frac{1}{2}$	23 24		O s 1st Limb
		24 16	24 59 $\frac{1}{2}$	25 43	26 26	O s 2d Limb
J — 18	Clouds	6 57	15 5 45	8 23 $\frac{1}{2}$	Clouds	α Cor Bor
		1 25 $\frac{1}{2}$	7 2 20	3 11		Castor
		8 51 $\frac{1}{2}$	7 9 37 $\frac{1}{2}$	10 20 $\frac{1}{2}$		Procyon
			7 13 38 $\frac{1}{2}$			Pollux
	56 58 $\frac{1}{2}$	37 41	9 38 25	39 9 $\frac{1}{2}$	39 5 $\frac{1}{2}$	Regulus
	45 58	56 44 $\frac{1}{2}$	15 57 32 $\frac{1}{2}$	38 20 $\frac{1}{2}$	59 6 $\frac{1}{2}$	Antares
		58 43	15 59 30 $\frac{1}{2}$	0 18 $\frac{1}{2}$		Small * following Antares
	2 13 $\frac{1}{2}$	3 0	16 3 48 $\frac{1}{2}$	4 37	5 24	γ Scorpi

Observations at the Cape of Good Hope, Continued.

Observed Times of the Transits of the Sun, Moon and Stars over the Meridian.

1775.	Times by the Clock B.					Phenomena, &c.
	First Wire.	Second Wire.	Middle Wire.	Fourth Wire.	Fifth Wire.	
			H			
♂ April 18.	14 1	14 46	16 15 32 $\frac{1}{2}$	16 17 $\frac{1}{2}$	Clouds.	♂'s 2d Limb.
	4 54 $\frac{1}{2}$	5 36 $\frac{1}{2}$	17 6 21 $\frac{1}{2}$	7 5 $\frac{1}{2}$	7 48	♂ Ophiuchi.
♀ — 19.	27 27 $\frac{1}{2}$	28 10	1 28 53 $\frac{1}{2}$			♂'s 1st Limb.
			31 4 $\frac{1}{2}$	31 48 $\frac{1}{2}$	32 30 $\frac{1}{2}$	♂'s 2d Limb.
	59 58	0 47 $\frac{1}{2}$	7 1 38 $\frac{1}{2}$	2 29	3 18 $\frac{1}{2}$	Castor.
	7 31 $\frac{1}{2}$	8 14	7 8 56 $\frac{1}{2}$	9 40	10 22	Procyon.
	11 20	12 8 $\frac{1}{2}$	7 12 56 $\frac{1}{2}$	13 45 $\frac{1}{2}$	14 33	Pollux.
	4 12 $\frac{1}{2}$	4 55 $\frac{1}{2}$	17 5 39	6 23 $\frac{1}{2}$	7 6	♂ Ophiuchi.
	8 9	8 50 $\frac{1}{2}$	17 9 33 $\frac{1}{2}$	10 16 $\frac{1}{2}$	10 58	†
	14 8 $\frac{1}{2}$	14 54 $\frac{1}{2}$	17 15 40 $\frac{1}{2}$	16 27	17 12	♂'s 2d Limb.
		26 4 $\frac{1}{2}$	17 26 48 $\frac{1}{2}$	27 34		These three Stars are in the telescope together, and nearly in the same parallel of declination; the middle one is (I believe) the 394th in La Caille's Catalogue.
	27 59 $\frac{1}{2}$	28 43 $\frac{1}{2}$	17 29 28	30 13		
		31 40 $\frac{1}{2}$	17 32 25	33 10		
		8 2	18 8 56 $\frac{1}{2}$	9 52		Small * preceding α Lyrae.
♂ — 20.	8 38	9 31 $\frac{1}{2}$	18 10 26	11 21 $\frac{1}{2}$	12 14	α Lyrae.
	30 27 $\frac{1}{2}$	31 10	1 31 53 $\frac{1}{2}$			♂'s 1st Limb.
			34 5	34 48 $\frac{1}{2}$	35 31	♂'s 2d Limb.
	59 16 $\frac{1}{2}$	0 6 $\frac{1}{2}$	7 0 56 $\frac{1}{2}$	1 47 $\frac{1}{2}$	2 36 $\frac{1}{2}$	Castor.
	6 49 $\frac{1}{2}$	7 32 $\frac{1}{2}$	7 8 14 $\frac{1}{2}$	8 57 $\frac{1}{2}$	9 39 $\frac{1}{2}$	Procyon.
	10 38 $\frac{1}{2}$	11 26 $\frac{1}{2}$	7 12 15	13 4	13 51	Pollux.
♀ — 21.			1 34 56 $\frac{1}{2}$	35 39 $\frac{1}{2}$		♂'s 1st Limb.
		36 22 $\frac{1}{2}$	37 6 $\frac{1}{2}$			♂'s 2d Limb.
		59 23 $\frac{1}{2}$	7 0 14	1 5		Castor.
		6 49	7 7 32	8 15 $\frac{1}{2}$		Procyon.
	9 56	10 43 $\frac{1}{2}$	7 11 32	12 21 $\frac{1}{2}$	13 8 $\frac{1}{2}$	Pollux.
♂ — 22.	42 39		19 44 9 $\frac{1}{2}$		45 39	1ma ad α } Capricorni.
		43 49	19 44 33 $\frac{1}{2}$	45 18		2da ad α }
		46 26	19 47 10 $\frac{1}{2}$	47 54 $\frac{1}{2}$		Small * following them.
	17 23 $\frac{1}{2}$	18 8 $\frac{1}{2}$	20 18 53 $\frac{1}{2}$	19 39 $\frac{1}{2}$	20 23 $\frac{1}{2}$	♂'s 2d Limb.
♂ — 23.	39 35 $\frac{1}{2}$	40 18 $\frac{1}{2}$	1 41 2 $\frac{1}{2}$	41 46 $\frac{1}{2}$		♂'s 1st Limb.
		42 29 $\frac{1}{2}$	43 13 $\frac{1}{2}$	43 57 $\frac{1}{2}$	44 40	♂'s 2d Limb.
	16 7 $\frac{1}{2}$	16 51 $\frac{1}{2}$	21 17 36 $\frac{1}{2}$	18 20 $\frac{1}{2}$	19 5 $\frac{1}{2}$	♂'s 2d Limb.
♂ — 24.	42 40	43 23	1 44 6 $\frac{1}{2}$	44 50 $\frac{1}{2}$		♂'s 1st Limb.
		45 33 $\frac{1}{2}$	46 17 $\frac{1}{2}$	47 1 $\frac{1}{2}$	47 44 $\frac{1}{2}$	♂'s 2d Limb.
♂ — 25.	45 44 $\frac{1}{2}$	46 27	1 47 10 $\frac{1}{2}$	47 55 $\frac{1}{2}$		♂'s 1st Limb.
		48 38	49 22 $\frac{1}{2}$	50 6 $\frac{1}{2}$		♂'s 2d Limb.

† This Star, as far as I can find, is not in any catalogue: it may be about the sixth magnitude, and its zenith distance at the Cape, as shewn by the index of the transit instrument, was 33°.30', or thereabouts; consequently its declination will be about 0° 26' S. and its right ascension 17 h. 29' 21 $\frac{1}{2}$ ".

Observations at the Cape of Good Hope, Continued

Observations of Meridian Altitudes of the Sun and Stars

1775	Zenith Distances				Exterior Arch reduced	Barom	Thermom		Phenomena and Remarks
	Interior Arch	Exterior Arch					L. D. 50	O. F.	
		G	S	V					
April 7	41 2 4	43 3 3	15	41 2 30	29,98	76	75	○ s L L	
— 9	41 14 45	44 0 0	17	41 15 17	30,01	72½	75½	○ U L	
— 11	17 30 0	18 2 21	16	17 30 7	29,87	70½	65½	synus	
	66 15 0	70 2 22	6	66 15 23½	29,87	70	65	Callor	
	39 41 55	42 1 12	20	39 42 10	29,87	70	65	Procyon	
— 12	42 52 53	45 2 31	20	42 53 20	30,02	68½	69	○ s U L	
	19 58 5	21 1 6	0	19 57 57	30,04	69	63½	ξ Navis	
	34 52 12	37 0 25	16	34 52 30	30,04	69	63½	β — { Cloudy	
— 13	42 43 15	45 2 9	20	42 43 40	30,02	68½	68½	○ s U L	
	43 15 27	46 0 18	22	43 15 46½				○ s L	
	17 30 12	18 2 22	5	17 30 22½	29,98	69½	66	Synus	
	39 42 5	42 1 13	4	39 42 20½	29,97	69	64½	Procyon	
	62 26 53	66 2 15	1½	62 27 27	29,97	69	64	Pollux	
	5 27 10	5 3 10	8	5 27 58				ξ Navis	
	12 45 20	13 2 14	0	12 45 31½				γ	
	19 57 45	21 1 6	10	19 58 7	29,97	69	63	β	
	34 51 20	37 0 23	17	34 51 38½				β	
	24 34 22	26 0 27	16	24 34 38				γ	
— 14	39 42 8	42 1 13	13	39 42 29½	30,01	67½	64	Procyon	
	62 27 15	66 2 15	8	62 27 21				Pollux	
	5 27 52	5 3 11	10	5 28 26				ξ Navis	
	12 45 7	13 2 15	5	12 46 03				γ	
	19 58 5	21 1 7	10	19 58 33	30,0	67	63	β	
— 15	34 51 50	37 0 23	20	34 51 41½				β	
	39 42 0	42 1 12	18	39 42 08				Procyon	
	62 26 57	66 2 15	23	62 27 36	29,99	68½	64	Pollux	
	34 52 0	37 0 25	8	34 52 22	29,97	68½	63½	β Navis	
— 16	44 19 55	47 1 5	5	44 20 0½	30,0	67½	69½	○ s L L	
	5 27 37	5 3 11	6	5 28 22	29,94	68	64	ξ Navis	
— 17	5 26 50	5 3 9	0	5 27 23½	30,0	67½	61½	ξ Navis	
	12 45 8	13 2 14	10	12 45 41½	30,0	67½	61½	γ	
	19 57 50	21 1 6	6	19 58 3	30,0	67½	61½	β	
	34 51 37	37 0 23	10	34 51 31½	30,01	68	61½	β	
	24 34 38	26 0 27	22	24 34 44	30,01	67	61	γ	
— 18	39 42 7	42 1 13	8	39 42 24½				Procyon	
	5 26 30	5 3 9	10	5 27 33½	30,18	66	63	ξ Navis	
	12 45 4	13 2 14	0	12 45 31½				γ	
	19 58 0	21 1 7	8	19 58 31				β	
— 19	34 51 5	37 0 23	7	34 51 28½	30,18	66	62½	β	
	40 22 15	48 1 19	8	45 22 32½				○ s L L	
	44 49 37	47 3 9	15	44 50 08½	30,18	67	70	○ s U L	
	34 52 0	37 0 25	5	34 52 19				β Navis	
	24 34 15	26 0 27	22	24 34 44	30,0	69	69	ξ Navis	

Observations at the Cape of Good Hope, Continued.

Observations for the Error of the Line of Collimation, made with the Board as formerly.

	Zenith distance of the upper hole: the quadrant direct.			Zenith distance of the lower hole: the quadrant inverted.		
	Interior Arch.	Exterior Arch.		Interior Arch.	Exterior Arch.	
	° ' "	G. S. V.	+ "	° ' "	G. S. V.	+ "
Means.	87 49 22	93 2 22	13	92 11 27	98 1 10	22
	7	22	6	5	10	20
	20	22	16	15	10	20
	0	22	20	0	10	5
	20	22	13	20	10	15
	5	22	10	23	10	20
	87 49 14 $\frac{1}{2}$	93 2 22	14 $\frac{1}{2}$	92 11 15	98 1 10	17
	87 49 0	93 2 22	12	92 10 30	98 1 9	6
	10	23	0	20	9	0
	0	23	0	38	9	18
Means.	12	23	5	5	9	0
	0	22	16	30	9	16
	0	22	18	20	9	0
	87 49 3 $\frac{1}{2}$	93 2 22	21,7	92 10 27 $\frac{1}{2}$	98 1 9	8 $\frac{1}{2}$
	87 48 52	93 2 22	6	92 10 38	98 1 10	11
	49 30	23	20	11 5	10	5
	48 45	22	5	11 0	10	0
	48 50	22	0	10 55	9	15
				10 40	10	8
	87 48 59 $\frac{1}{2}$	93 2 22	14 $\frac{1}{2}$	92 10 51 $\frac{1}{2}$	98 1 10	2 $\frac{1}{2}$

The Quadrant was inverted between every set, as the means are here taken, and of course the Observations give nine comparisons for each arch of the Quadrant; the mean result of which gives 1",8 to be added to the interior arch, and 8" $\frac{1}{2}$ to be subtracted from the exterior arch.

Observations at the Cape of Good Hope, Continued

Computations of the Latitude, from the foregoing Observations

1775	Latitude by		Declination	1775	Latitude by		Declination	
	Interior Arch	Exterior Arch			Interior Arch	Exterior Arch		
	°		°		°			
By Observations of the Sun								
♀ April 7	33 55 48½	33 56 5	6 50 58 N	♂ April 11	33 55 57½	33 55 54½	} 16 25 18½	
♀ — 9	33 55 43½	33 56 5	7 35 46	♂ — 13	33 56 9½	33 56 10		
♀ — 12	33 55 45½	33 55 58	8 42 0	33 56 3½ 33 56 2½ Mean				
♀ — 13	33 56 21	33 56 33	9 3 47	By an Observation of Cusior				
♀ — 16	33 56 3	33 56 31	10 8 15	♂ April 11	33 55 38	33 55 51½	32 21 11 N	
♀ — 19	33 55 34½	33 55 49½	11 11 12½	By Observations of β Navis				
33 55 53½ 33 56 10½ Means				♀ — 12	33 55 11½	33 55 1½	} 68 47 41 S	
By Observations of Procyon				♀ — 13	33 56 2	33 55 53½		
♂ April 11	33 55 39	33 55 44	} 5 57 16 N	♀ — 14	33 55 31½	33 55 50½		
♂ — 13	33 55 49	33 55 54½		♂ — 15	33 55 22	31 55 10		
♀ — 14	33 55 52	33 56 3½		♂ — 17	33 55 45	33 56 0½		
♀ — 15	33 55 44	33 55 42		♂ — 18	33 56 17	33 56 03½		
♂ — 18	33 55 51	33 55 58½		♂ — 19	33 55 22½	33 55 13½		
33 55 47 33 55 52½ Means				33 55 38½ 33 55 36½ Mean				
By Observations of Pollux				By Observations of α Navis				
♂ April 13	33 55 45½	33 56 8½	} 28 33 01 N	♂ April 13	33 55 58	33 55 52½	} 58 30 32½	
♀ — 14	33 56 0½	33 56 2½		♂ — 17	33 55 42½	33 55 46½		
♀ — 15	33 55 48½	33 56 17½		♂ — 19	33 56 5½	33 55 46½		
33 55 53½ 33 56 9½ Means				α Navis				
By Observations of ζ Navis				β —	33 55 55½	33 55 48½	Mean	
♂ April 13	33 55 48½	33 55 10½	} 39 2 43 S	β —	33 55 38½	33 55 36½	Ditto	
♀ — 14	33 55 6½	33 54 42½		γ —	33 55 28½	33 55 21½	Ditto	
♀ — 16	33 55 21½	33 54 46½		γ —	33 55 51½	33 55 29½	Ditto	
♂ — 17	33 56 10½	33 55 35		ζ —	33 55 43	33 55 10	Ditto	
♂ — 18	33 56 8½	33 55 35½		Southern * *				
33 55 43 33 55 10 Means				33 55 43½ 33 55 29 Mean				
By Observations of γ Navis				The Sun				
♂ April 13	33 55 41½	33 55 39½	} 46 40 51 88.	Sirius				
♀ — 14	33 55 54½	33 55 8½		33 55 53½ 33 56 10½ Mean				
♂ — 17	33 55 53½	33 55 29½		33 56 3½ 33 56 2½ Ditto				
♂ — 18	33 55 57½	33 55 39½		33 55 38 33 55 51½ Ditto				
33 55 51½ 33 55 29½ Mean				33 55 47 33 55 52½ Ditto				
By Observations of δ Navis				33 55 53½ 33 56 9½ Ditto				
♂ April 12	33 55 20½	33 55 38½	} 53 53 24½ S	Northern * *				
♀ — 13	33 55 40½	33 55 28½		33 55 51 33 55 1½ Mean				
♀ — 14	33 55 20½	33 55 2½		33 55 43½ 33 55 29 Ditto				
♂ — 17	33 55 35½	33 55 32½		Mean of both				
♂ — 18	33 55 25½	33 55 4		33 55 47½ 33 55 45½				
33 55 28½ 33 55 21½ Mean				33 55 46½ 33 55 45½ Exterior Arch				
				S Latitude				
				Messrs. Maſon and Dixon				
				Abbe de la Caille.				
				Mr. Bayley				

Observations at the Cape of Good Hope, Continued.

Computations of the Clock's Rate of going.

1775.	Time of ap- parent Noon by the Clock.	Syderial Time of apparent Noon.	Difference.	Clock loses.
	H	H		
March 24.	21 33 15.73	0 13 18.71	160 2.98	
" 25.	21 30 12.22	0 16 56.71	160 44.49	41.51
" 26.	21 39 7.95	0 20 35.43	161 27.48	42.99
" 27.	0 22 28.60	0 24 13.24	1 44.64	
" 28.	0 25 24.71	0 27 51.13	2 26.42	41.78
" 29.	0 28 19.36	0 31 28.13	3 8.77	42.35
" 30.	0 31 14.19	0 35 07.13	3 52.97	44.20
" 31.	0 34 10.68	0 38 45.22	4 34.54	41.57
April 1.	0 37 05.75	0 42 23.32	5 17.57	43.03
" 2.	0 40 0.27	0 46 01.61	6 01.34	43.77
" 3.	0 42 46.31	0 49 57.19	7 10.88	43.18
" 4.	0 45 40.50	0 53 06.08	8 55.58	44.70
" 5.	0 48 37.38	0 56 15.08	9 37.70	42.12
" 6.	0 51 32.08	0 59 33.66	10 01.58	41.94
" 7.	0 54 29.16	1 02 13.34	11 44.18	42.60
" 8.	0 57 29.72	1 05 14.0	13 44.28	40.3
" 9.	0 59 29.49	1 08 35.87	15 06.38	41.05
Clock stopped.				
" 17.	1 23 54.40	1 40 59.34	17 4.94	
" 18.	1 26 54.81	1 44 41.51	17 46.67	41.73
" 19.	1 29 58.52	1 48 24.19	18 25.67	39.0
" 20.	1 32 59.05	1 52 7.26	19 8.21	42.54
" 23.	1 42 6.37	2 3 19.29	21 12.92	41.57

Comparisons of the Transit Instrument with equal Altitudes.

1775.	Noon by equal Al- titudes.	The \odot passed the Transit Instru- ment.	Difference.	Error of the Instru- ment.
	H	H		
March 26.	21 39 07.95	21 35 52.44	3 15.51	82 50
Altered the Instrument.				
" 27.	0 22 28.60	0 22 38.91	0 10.31	4 20
Altered the Instrument.				
" 28.	0 25 21.71	0 25 30.41	0 5.70	2 22
" 29.	0 28 19.36	0 28 24.94	0 5.58	2 18
" 30.	0 31 14.16	0 31 19.66	0 5.50	2 17
Moved the Instrument.				
" 31.	0 34 10.68	0 34 12.55	0 1.87	0 45
April 1.	0 37 5.75	0 37 8.25	0 2.50	1 0
" 2.	0 40 0.27	0 40 2.53	0 2.26	0 54
" 3.	0 42 46.31	0 42 49.0	0 2.69	1 2
" 4.	0 45 40.50	0 45 44.06	0 3.56	1 21
Moved the Instrument.				
" 7.	0 54 37.38	0 54 38.38	0 1.0	0 23
" 9.	1 0 32.08	1 0 33.47	0 1.39	0 31
" 10.	1 3 29.16	1 3 30.78	0 1.62	0 36
" 13.	1 12 29.72	1 12 29.83	0 0.11	0 3
" 15.	1 18 29.49	1 18 31.04	0 1.55	0 33
" 17.	1 23 54.40	1 23 54.79	0 0.39	0 8
" 19.	1 29 58.52	1 29 59.08	0 0.56	0 12
" 20.	1 32 59.05	1 32 59.29	0 0.24	0 5
" 23.	1 42 6.37	1 42 7.94	0 1.57	0 31

The difference between the rates of the Clock's going now, and when here in November 1772, is very extraordinary; but cannot, I think, be imputed to any absolute alteration in the length of the pendulum, as it had never been altered, in any respect, after the Clock was set up at Dusky Bay; and although before that time it was always altered, in order to its being packed up, yet on setting it up again, it was constantly brought back to its proper length, by means of a scratch on the rod, and the numbers on the nut. But, notwithstanding, I think it highly probable that the cause does not lie there, I am utterly unable to assign any other satisfactory one; and the most likely hint I am able to give, after the closest examination, is, that all the time the Clock was now going here, the principal play, or bending of the pendulum spring was down quite at the lower part of it: whether or no it had always been so, or that the principal yielding of the spring had formerly been in some part higher up, which was now grown stiff with rust, I must confess I cannot tell, as a thought of this kind did not occur to me before. It is worthy observation, that the Clock went somewhat faster the second time it was at Otaheite, than it did the first, and the difference was yet greater at Queen Charlotte's Sound.

Observations at the Cape of Good Hope, Continued

Computations of the Rate which Mr. Kendall's Watch went at

1775	Time of apparent Noon by the Clock	Time by Clock when the Watch was compared	Time from Noon by the Clock	The Watch	Time from Noon by the Watch	Time by the Watch when compared	Time of apparent Noon by the Watch	Mean Time of apparent Noon	The Watch too slow for mean Time	Day
	H	H				H	H	H	H	
7 March 24	21 31 15 73	21 57 0	23 44 27	2 09	23 41 28	23 15 51 $\frac{1}{2}$	22 52 10 47	24 6 26 05	1 14 15 58	13 3
h — 25	21 36 12 22	21 14 41	22 7 97	2 77	22 5 20	22 30 0	22 52 5 20	24 6 7 45	1 14 2 25	13 6
Q — 26	21 39 7 95	21 45 81	6 0 55	0 76	5 59 79	22 58 0	22 52 00 21	24 5 48 85	1 13 48 64	13 9
b — 27	0 23 28 60	0 40 35	18 6 40	2 27	18 04 13	23 10 0	22 51 55 87	24 5 30 14	1 13 34 27	14 3
d — 28	0 25 24 71	0 32 36	7 11 20	0 91	7 10 38	23 59 0	2 51 48 62	24 5 11 55	1 13 22 93	14 6
f — 29	0 28 19 36	0 38 361	10 16 89	1 17	10 15 72	23 2	22 51 44 28	24 4 52 95	1 13 8 67	14 9
h — 30	0 31 14 16	0 37 351	6 21 34	0 97	6 20 37	22 58 0	22 51 39 63	24 4 34 44	1 12 54 81	15 6
Q — 31	0 34 10 68	0 43 35	9 24 32	1 17	9 23 15	23 1 0	22 51 36 85	24 4 16 04	1 12 39 19	15 9
h April 1	0 37 5 75	1 16 41	39 35 25	0 00	39 30 25	23 31 0	22 51 29 75	24 3 57 73	1 12 27 98	16 6
Q — 2	0 40 0 27	0 45 361	5 36 48	0 70	5 35 78	22 57 0	22 51 24 22	24 3 39 43	1 12 15 21	16 9
b — 3	0 42 55 0	0 47 36	4 41 0	0 59	4 40 41	22 56 0	22 51 19 59	24 3 21 32	1 12 1 73	17 6
d — 4	0 45 50 65	0 56 371	10 17 03	1 34	10 15 68	23 1 0	22 51 11 32	24 3 3 41	1 11 49 9	17 9
f — 5	0 48 46 31	1 14 381	25 51 94	3 22	5 49 72	23 17 0	22 51 11 28	24 2 45 61	1 11 34 31	18 6
h — 6	0 51 40 50	0 14 301	37 10 25	4 63	37 5 62	23 14 0	2 51 5 62	24 2 27 90	1 11 22 28	18 9
Q — 7	0 54 37 38	1 1 361	6 59 12	0 86	6 58 26	22 58 0	22 51 1 74	24 2 10 39	1 11 8 65	19 6
b — 8	1 0 32 08	1 7 371	7 5 04	0 89	7 4 15	22 58 0	22 50 55 85	24 1 35 97	1 10 40 12	19 9
d — 9	1 3 29 16	1 11 381	8 9 09	1 02	8 8 07	22 59 0	22 50 51 93	24 1 19 12	1 10 27 19	20 6
f — 10	1 9 28 65	1 16 421	7 14 02	0 92	7 13 10	22 58 0	22 50 46 90	24 0 46 23	1 9 59 33	20 9
h — 11	1 12 29 72	1 19 461	7 16 95	0 93	7 16 03	22 58 0	22 50 43 98	24 0 30 2	1 9 46 24	21 6
Q — 12	1 15 28 97	1 6 48	8 40 97	1 10	8 39 87	22 42 0	22 50 39 8	24 0 14 53	1 9 34 66	21 9
b — 13	1 18 29 49	1 24 54	6 25 01	0 81	6 24 20	22 57 0	22 50 35 80	23 59 59 18	1 9 23 38	22 6
d — 14	1 0 5 70	1 27 191	6 26 80	0 81	6 25 99	22 57 0	22 50 34 01	23 59 44 17	1 9 10 16	22 9
f — 15	1 23 54 40	1 26 241	32 30 35	4 10	32 26 25	23 23 0	22 50 33 75	23 59 29 51	1 8 55 78	23 6
h — 16	1 26 54 84	1 35 211	8 30 41	1 09	8 29 32	22 59 0	22 50 30 68	23 59 15 24	1 8 44 56	23 9
Q — 17	1 29 58 52	1 35 281	5 30 15	0 70	5 29 45	22 56 0	22 50 30 55	23 59 1 40	1 8 30 85	24 6
b — 18	1 32 59 5	1 43 31	10 31 95	1 33	10 30 62	23 1 0	22 50 29 38	23 58 48 0	1 8 18 62	24 9
d — 19	1 36 0 55	1 54 0	17 59 50	2 28	17 57 22	23 8 28 5	22 50 30 28	23 58 35 0	1 8 4 78	25 6
f — 20	1 42 6 37	1 50 351	8 29 13	1 07	8 28 06	22 59 0	22 50 31 94	23 58 10 42	1 7 38 48	25 9

The mean of all the above gains is 13,172, the first and last days Observations give 13,236, and the mean of the two is 13,204, the gain of the watch on mean time in twenty four hours

Observations at the Cape of Good Hope, Continued.

Observations for the Dip of the Magnetic Needle.

1775.	Face of the Instrument.		Face of the Instrument.	
	East.	West.	East.	West.
	°	°	°	°
	46 55	45 35	43 45	46 50
	45 40	45 0	46 30	43 45
	46 30	43 30	48 15	48 45
			45 45	42 45
	Changed the Poles.		Changed the Poles.	
	43 0	46 55	47 40	44 25
	42 30	48 15	46 30	45 45
	42 30	48 50	48 35	47 45
	44 30	47 45	46 35	47 45
	47 0	45 45	45 25	43 35
	42 30	45 50	45 55	42 45
	Altered the Balance.		45 0	47 10
			Changed the Poles.	
	43 35	48 30	43 45	44 15
	46 0	47 15	44 15	47 0
	43 0	45 35	46 30	47 0
	Altered the Balance.		43 15	49 0
	45 5	45 30	45 45	43 30
	46 35	45 55	47 35	43 10
	47 15	47 45	42 45	44 30
	46 40	46 20	43 05	44 30
			42 45	43 15
	Changed the Poles.		Changed the Poles.	
	45 15	45 20	43 35	42 55
	46 35	43 30	43 40	43 25
	47 0	42 40	42 40	42 25
	46 15	45 0	44 35	42 05
	The mean of all gives the dip of the Needle's S. end. } 45 18 $\frac{1}{4}$			

Observations for the Variation of the Compass.

1775.	Variation.	Variation.	Variation.
	°	°	°
April 23.	21 10 W.	21 15 W.	21 55 W.
	21 25	21 30	21 0
	21 25	21 10	21 30
	21 10	21 15	20 50
	21 0	21 25	21 20
	20 55	21 0	21 10
	21 5	21 15	21 45
	21 15	21 10	20 40
	21 15	21 15	21 15
	21 10	21 10	21 25
	21 20	21 35	21 15
	21 35	21 0	21 10
	20 50	21 15	21 15
	21 40	21 15	21 15
	21 20	21 30	21 5
	21 25	20 50	21 15
	21 0	21 0	21 20
	21 10	21 5	21 10
	21 10	21 25	21 25
	21 10	21 0	21 15

The first two columns were obtained by placing the Compass at the Transit Instrument, and making the index bisect the meridian mark; the last was got by placing the Compass at the mark, and setting the index to cut the Transit Telescope. The mean of them all is 21° 14 $\frac{1}{4}$ W.

Observations made at the Cape of Good Hope, Continued

As there have been some disputes concerning the relative situation of the place where the late *Abbe de la Caille* made his Observations, with respect to that where Messrs. Maclon and Dixon, as well as Mr. Bayley and myself observed and, moreover, as it may also contribute some thing towards the business I was employed on at the Cape of Good Hope to determine with accuracy, the difference of latitude and meridians between their places, the following account of a survey, made for that purpose, will not, I presume be unacceptable.

In the annexed Figure, (see Plate I Fig. 1) C is the place of the *Abbe's* Observatory and O that of ours; S N is the meridian line passing through the latter and S a point on it, 8,84 chains to the southward of the Observatory. The lines S G, G I, I A, and A C, which are in the directions of the several streets were carefully measured, as also the angles at S, G, E and A. The line S G was found to be 12,26 chains (of Gunter), G L is 7,50 chains, I A 34 chains, and A C 5,64 chains. I found the inclination of the plane whereon the line O S was measured $1^{\circ} 25'$, of that whereon S G was measured $2^{\circ} 05'$ that on which G L was measured did not differ sensibly from the horizontal level. E A declined $1^{\circ} 59'$ from the plane of the horizon, and A C was nearly horizontal. I have not made any allowance for these elevations in the computation, whereby the following results were deduced: that my them to small is not to merit notice, but have put down the inclinations themselves, for the satisfaction of such persons as may think otherwise. The angle at S measured $14^{\circ} 48' 7\frac{1}{2}''$, that at C $11^{\circ} 54'$, that at E $85^{\circ} 41' 15''$, and that at A $106^{\circ} 38' 5''$. The quadrant showed angles too small by 18, as I found by Observations made for that purpose. Hence it will readily be seen that one side and all the angles are given in each triangle from whence I found that O N the difference of latitude, was equal to 37,69 chains or 0,409 of a mile $= 24\frac{1}{2}'$ and that I I B = N C the meridian distance was 16,86 chains, or, 183 of a mile $= 13''\frac{1}{2}$ in longitude; the *Abbe's* Observatory being these quantities to the northward and eastward of ours.

The Mountain at this place, usually known by the name of the *Table Mountain* from its flat top, being one of the highest and most remarkable in the known world so near the sea; I thought the knowledge of its height might prove a matter acceptable to many and perhaps be of some use in physical enquiries. These considerations induced me to make the following Observations which though not on so large a base as might be wished, will nevertheless, I hope, be sufficient for the purpose. The base having been measured twice over, with the utmost care, on a tolerably even plane, and the two measurements differed only nine links of Gunter's chain from each other; the whole length of the base line was 50 chains, or 3300 English feet, and lay in a direct line from that part of the hill which I observed the altitude of.

Being thus pretty well assured of the length of my base, I placed the astronomical quadrant at the lower end of it, set the Telescope very nicely to go, allowing the error of the Quadrant and turned it round until the middle horizontal wire cut the main topmast of the Resolution as she lay at anchor in the bay and when I had adjusted the plumb-line very accurately I found that the middle wire of the Telescope cut the main topmast about $\frac{1}{4}$ th or $\frac{1}{3}$ d of the way up between the cap of the main mast and the trussel trees of the main topmast.

Observations at the Cape of Good Hope, Continued.

I next took the following zenith distances of a mark at the upper end of the base-line, which was exactly of the same height from the ground with the center of the Quadrant, viz.,

Interior Arch.			Exterior Arch.			
°	'	"	G.	S.	V.	+ "
87	35	55	93	1	24	16
	36	52			26	8
	35	50			24	12
	36	5			25	10

With the Quadrant yet standing at the same place, I took the following zenith distances of the highest part of the Table Mountain: I mean that part which forms the right-hand cliff of the passage, whereby the mountain is usually ascended.

Interior Arch.			Exterior Arch.			
°	'	"	G.	S.	V.	+ "
74	24	37	79	1	16	5
	24	45			16	7
	24	15			15	10

I now removed the Quadrant to the upper end of the base-line, and there took the following zenith distances of the same point of the mountain.

Interior Arch.			Exterior Arch.			
°	'	"	G.	S.	V.	+ "
71	5	50	75	3	11	18
	5	30			11	10

Clouds now covered the hill, so that I could get no more of these last. The Barometer stood at 29.98, and the Thermometer at 64. It is necessary to add, that the length of the Resolution's main-mast was 70 feet 11 inches, of her main-topmast 42 feet 5 inches: 11 feet and 6 inches of the main-mast was lost in the water, the top-mast overlapped at the heel 9 feet and 10 inches, and the trussel-trees were $4\frac{1}{2}$ feet below its cap. Hence the cap of the main-mast was 59 feet and 5 inches above the surface of the sea, and the main-topmast trussel-tree $27\frac{1}{2}$ feet above that; one fourth, or one third of which may be taken at 8 feet, and then the lower end of the base will appear to be $67\frac{1}{2}$ feet, or $22\frac{1}{2}$ yards above the surface of the sea, allowing nothing for the horizontal refractions, or the curvature of the earth on the distance, which was about a mile and quarter.

If then, in Fig. 2, Plate II, A E represent an horizontal line drawn through A, the lower station; B D another drawn through the upper station, B; A B the line measure, = 3300 feet, or 1100 yards, and C D the perpendicular height of the mountain above the horizontal line B D, by taking a mean of the zenith distances shewn by the two arches of the Quadrant, and

Observations at the Cape of Good Hope, Continued

allowing the mean astronomical refractions thereon, which may, perhaps, be a small matter more than ought to be done, B F, the perpendicular height of the second station, above the first, will come out $40\frac{7}{8}$ yards; and D C, the perpendicular height of the summit of the mountain, above the second station, $1422\frac{7}{8}$ yards; and of course the height of the mountain's summit, above the lower station, is 1463 yards; to which adding $22\frac{1}{2}$ yards the height of the lower station above the sea, the whole height of the mountain will be $1485\frac{1}{2}$ yards.

If no refractions whatever be allowed, B F will be 46 yards, and C D 1407 yards; and the whole height of the mountain $1475\frac{1}{2}$ yards above the level of the sea.

As B C, the distance of the upper station from the top of the mountain, comes out only $4400\frac{7}{8}$ yards in one case, and $4342\frac{1}{2}$ yards in the other; the whole distance of the top of the mountain from the sea-shore cannot exceed four miles, as my first station was not quite three fourths of a mile from it.

Observations at the Island of St. Helena, Latitude $15^{\circ} 55'$, S. Longitude $5^{\circ} 49'$, W.

Observations for the Dip of the Magnetic Needle.

1775.	Face of the Instrument.		1775.	Face of the Instrument.		1775.	Face of the Instrument.		
	East.	West.		East.	West.		East.	West.	
	0	0		0	0		0	0	
2 May 19.	14 10	14 25	2 May 19.	14 15	14 40	Mean of all the means Dip of the Needle's south end	Changed the Poles.		
	14 35	14 5		14 0	13 30		10 45	8 30	
	14 50	14 10		14 0	14 0		9 0	9 50	
Mean	14 31 $\frac{1}{2}$	14 13 $\frac{1}{2}$	Mean	13 44 $\frac{1}{2}$	13 22 $\frac{1}{2}$		9 5	8 35	
	Changed the Poles.			Changed the Poles and altered the Balance.			8 45	8 45	
	9 50	8 45	May 20.	12 30	11 40		8 55	8 45	
	10 0	8 45		12 40	11 30		8 50	8 45	
Mean	9 55	8 45		13 5	13 0		9 13 $\frac{1}{2}$	8 52	
	Altered the Balance.			13 15	13 30		11 29 $\frac{1}{2}$	11 20 $\frac{1}{2}$	
	11 05	10 45		13 0	13 45		11 25 $\frac{1}{2}$		
	9 30	10 45		13 15	12 35				
Mean	10 17 $\frac{1}{2}$	10 45		13 0	13 05				
	Changed the Poles.			12 30	12 35				
	13 55	12 5		13 15	12 30				
	13 10	13 40		13 10	12 25				
	13 5	12 20	Mean	12 58	12 27 $\frac{1}{2}$				

Other Observations.

1775.	Time by the Watch K.	Apparent Time.	Double Altitude of the O's L.L.	Error of the Quadrant.	Therm.	Latitude.	Longitude by the Watch.	
	H	H	0	"		0	"	
21 May 18.		Noon.	108 31	-1 7 $\frac{1}{2}$	75 $\frac{1}{2}$	15 55 16		
2 — 19.	22 18 5 $\frac{1}{2}$		82 26					
	18 45		82 38					
	19 14	21 48 18,1	82 47 $\frac{1}{2}$	-0 30	76 $\frac{1}{2}$		5 47 22 $\frac{1}{2}$	West.
	19 40 $\frac{1}{2}$		82 56 $\frac{1}{2}$					
	20 5		83 3 $\frac{1}{2}$					
	20 34		83 13 $\frac{1}{2}$					
5 — 20.		Noon	107 38 $\frac{1}{2}$	-0 42	76	15 55 28		

Observations at the Island of Ascension, Latitude $7^{\circ} 56' \frac{1}{4}''$ S Longitude $14^{\circ} 32' \frac{1}{2}''$ W

Observations for the Dip of the Magnetic Needle

1775	Face of the Instru- ment		1775	Face of the Instru- ment	
	East	West		East	West
» May 29	9 40	8 0	» May 29	9 15	10 0
	9 15	8 30		9 15	9 15
	9 10	8 25		9 10	9 0
	8 45	8 30		9 0	9 30
	9 30	8 30		9 0	9 10
	9 20	8 40		9 05	8 30
Mean	9 16 $\frac{1}{2}$	8 25 $\frac{3}{8}$		9 10	8 15
	Changed the Poles		Mean	9 7 $\frac{1}{2}$	9 10
	10 15	10 0	3d ditto	9 13	8 28
	9 40	7 10	2d ditto	9 28 $\frac{1}{2}$	8 26 $\frac{1}{2}$
	8 30	8 15	1st ditto	9 16 $\frac{1}{2}$	8 25 $\frac{1}{2}$
Mean	9 28 $\frac{1}{2}$	8 28 $\frac{1}{2}$	Mean of all the means	9 16 $\frac{1}{2}$	8 38 $\frac{1}{4}$
	Changed the Poles				9 16 $\frac{1}{2}$
	8 5	9 25	Dip of the Needle's North End		8 5 $\frac{1}{4}$
	10 45	8 0			
	10 5	8 40			
	8 40	7 45			
	8 30	8 30			
	9 13	8 28			

Mr Kendall's watch gave the longitude of the ship at anchor $14^{\circ} 31' 49''$ W I got no lunar Observations for the longitude while here; but three taken before our arrival, and reduced to this place by means of the watch, gave $14^{\circ} 58' 11''$, and twelve taken after leaving it, six of which were of the sun and moon, and six of the moon and stars, on the other side of her, gave, when reduced back by the watch, $14^{\circ} 6' 50''$ The mean of the two is $14^{\circ} 32' 30''$ W The latitude of the ship, as she lay at anchor, was $7^{\circ} 55' 53''$ S, by a mean of three Observations; and the variation of the Compass was $10^{\circ} 52' \frac{1}{2}''$ W

N B The highest part of the island bore W by N $\frac{1}{4}$ N by Compass, about four leagues distant.

Observations made at the Island of Fyal, one of the Azores.

1775.	Equal Altitudes. Times by the Watch K.			Zenith Dis- tance.	Supple- ment to the double Altitude of the ☉'s L. L.	Thermometer.	Time of apparent Noon by the Watch.	Phenomena, &c.
	Lower Wire.	Middle Wire.	Upper Wire.					
	" " H " "	" " " " "	" " " " "					
24 July 13.	28 43 $\frac{1}{2}$	0 31 15 $\frac{1}{2}$	33 44	29 20 0				☉'s U. L. } Easter- ☉'s L. L. } ly.
25 — 14.	31 47 $\frac{1}{2}$	34 19	36 47 $\frac{1}{2}$					
	18 12 $\frac{1}{2}$	4 15 42 $\frac{1}{2}$	13 15	29 20 0			2 25 02,63	☉'s L. L. } Wef- ☉'s U. L. } terly.
	21 12 $\frac{1}{2}$	18 43 $\frac{1}{2}$	16 16 $\frac{1}{2}$					
		23 57 13 $\frac{1}{2}$	59 32 $\frac{1}{2}$	35 40 0				☉'s U. L. } Easter- ☉'s L. L. } ly.
5 — 15.					34 31 47	76 $\frac{1}{2}$	1 25 24,23	Latit. 38° 32' 49" N. ☉'s L. L. } Wef- ☉'s U. L. } terly.
		4 53 28	51 8 $\frac{1}{2}$	35 40 0				☉'s U. L. } Easter- ☉'s L. L. } ly.
		0 5 10 $\frac{1}{2}$		34 20 0				☉'s U. L. } Easter- ☉'s L. L. } ly.
16.	5 40 $\frac{1}{2}$				34 48 54	76 $\frac{1}{2}$	2 25 41,17	Latit. 38° 31' 43" N. ☉'s L. L. } Wef- ☉'s U. L. } terly.
	45 35 $\frac{1}{2}$			34 20 0				☉'s U. L. } Easter- ☉'s L. L. } ly.
		4 46 05		34 20 0				☉'s U. L. } Easter- ☉'s L. L. } ly.
			20 41 $\frac{1}{2}$	55 0 0				☉'s U. L. } Easter- ☉'s L. L. } ly.
17.		22 21 11 $\frac{1}{2}$			35 9 48	76 $\frac{1}{2}$	2 26 02,04	Latit. 38° 32' 7" N. ☉'s L. L. } Wef- ☉'s U. L. } terly.
		6 30 42 $\frac{1}{2}$		55 0 0				☉'s U. L. } Easter- ☉'s L. L. } ly.
			31 13	55 0 0				☉'s U. L. } Easter- ☉'s L. L. } ly.
		21 —	45 36 $\frac{1}{2}$	62 0 0				☉'s U. L. } Easter- ☉'s L. L. } ly.
			48 18 $\frac{1}{2}$					☉'s U. L. } Easter- ☉'s L. L. } ly.
	15 18 $\frac{1}{2}$	22 17 34	19 46 $\frac{1}{2}$	55 20 0				☉'s U. L. } Easter- ☉'s L. L. } ly.
	18 2 $\frac{1}{2}$	20 15 $\frac{1}{2}$						☉'s U. L. } Easter- ☉'s L. L. } ly.
	54 34 $\frac{1}{2}$	21 56 51 $\frac{1}{2}$	59 06:	47 40 0				☉'s U. L. } Easter- ☉'s L. L. } ly.
	57 20 $\frac{1}{2}$	59 36 $\frac{1}{2}$	1 49 $\frac{1}{2}$					☉'s U. L. } Easter- ☉'s L. L. } ly.
	4 34 $\frac{1}{2}$	0 6 57:	9 16 $\frac{1}{2}$	34 20 0				☉'s U. L. } Easter- ☉'s L. L. } ly.
	7 26 $\frac{1}{2}$	9 50	12 13					☉'s U. L. } Easter- ☉'s L. L. } ly.
18.					35 30 45	77 $\frac{1}{2}$	2 26 19,80	Latit. 38° 32' 42" N. ☉'s L. L. } Wef- ☉'s U. L. } terly.
	45 6	4 42 42 $\frac{1}{2}$	40 18 $\frac{1}{2}$	34 20 0				☉'s U. L. } Easter- ☉'s L. L. } ly.
	48 1 $\frac{1}{2}$	45 36 $\frac{1}{2}$	43 14					☉'s U. L. } Easter- ☉'s L. L. } ly.
	55 8:	5 —	50 40 $\frac{1}{2}$	47 40 0				☉'s U. L. } Easter- ☉'s L. L. } ly.
	57 54 $\frac{1}{2}$		53 25 $\frac{1}{2}$					☉'s U. L. } Easter- ☉'s L. L. } ly.
	34 26 $\frac{1}{2}$	6 32 14 $\frac{1}{2}$	30 01 $\frac{1}{2}$	55 20 0				☉'s U. L. } Easter- ☉'s L. L. } ly.
	37 10	34 55 $\frac{1}{2}$	32 44 $\frac{1}{2}$					☉'s U. L. } Easter- ☉'s L. L. } ly.
		7 —	4 8 $\frac{1}{2}$	62 0 0				☉'s U. L. } Easter- ☉'s L. L. } ly.
			6 53					☉'s U. L. } Easter- ☉'s L. L. } ly.

Observations at Fyal, Continued

Computations of the Watch's Rate of going

1775	Time of Noon by the Watch		Mean Time of apparent Noon		Watch faster than mean Time		Watch gains on M. Time
	H	M	H	M	H	M	
♀ July 14	2	25 26.3	0	5 19 52	2	19 43 11	15 23
♂ — 15	2	25 24 23	0	5 25 89	19	58 34	11 11
♂ — 16	2	25 41 17	0	5 31 72	20	09 45	15 50
♂ — 17	2	26 02 04	0	5 37 09	20	24 95	12 80
♂ — 18	2	26 19 80	0	5 42 05	20	57 75	

The mean of these four is 13 66; but if a mean of all the comparisons which can be formed out of the five Observations be taken the gain on mean time will be 13 528. The longitude shown by the watch is $28^{\circ} 56' 20''$ W or $47^{\circ} 19' 35''$ west of the Cape of Good Hope. I had no lunar Observations here for the longitude; but a mean of 15 taken before we arrived here gave $28^{\circ} 1' 44''$ when brought on by the watch; and eight taken after leaving it and carried back by the watch gave $28^{\circ} 46' 42''$. The mean of the two is $28^{\circ} 24' 13''$ west.

Observations for the Variation of the Compass

1775	Zenith Distance of the Sun	Azimuth of the Sun's Center	Variation W. or E.
♂ July 17	62 28 1/2 U L	N 62 15 W	21 5/3
	43 3/4	61 45	
	54	61 25	
	63 1 1/2	61 20	
	19 1/2	61 0	2 10 4
♂ — 18	31 1/2	60 35	
	56 51 L L	N 66 45 W	
	57 1 1/2	64 15	
	57 13 1/2	66 55	1 44 2
	57 24 1/2	65 0	
	59 11	N 65 55 W	
	59 21 1/2	61 5	
	59 36 1/2	65 15	22 7 1/2
	59 46 1/2	61 50	
		Mean	

Observations for the Dip of the Magnetic Needle

1775	Face of the Instrument		Face of the Instrument	
	East	West	East	West
♂ July 17	70 20	71 0	69 35	72 15
	70 45	72 30	70 30	71 30
	71 30	72 15	70 40	72 0
	70 10	2 0	71 0	70 40
Mean	70 41 1/2	71 56 1/2	70 35	70 40
	Changed the Poles		70 5	71 0
	72 55	69 30	70 10	72 0
	72 0	69 55	70 22 1/2	71 26 1/2
	70 20	69 30	Changed the Poles	
	71 45	69 15	71 45	70 45
	72 05	69 25	71 0	70 50
	72 0	71 10	71 30	70 30
Mean	71 50 1/2	69 47 1/2	71 20	70 40
	Changed the Poles		71 23 1/2	70 41 1/2
	The mean of all these means is		71 01 1/2	
	which is the dip of the needle's north end			

Observations on the Tides

1775	Apparent Time	
♂ July 1	0 7 1/2	The water at a mark
	0 24 1/2	The water at a second mark
	0 39 1/2	It came to a third
	2 49	High water
	4 52 1/2	The water returned to the third mark
	5 17 1/2	It returned to the second
	5 34 1/2	It returned to the first

By one mark the water appeared to flow four feet and one inch and by another only three feet and ten inches. The mean of the two is three feet, 11 inches and a half.

ASTRONOMICAL OBSERVATIONS

FOR

Determining the LATITUDE of the Ship, and her LONGITUDE, by Mr.
ARNOLD's two Watches, No. 1 and 2.

Made on Board his Majesty's Sloop ADVENTURE, in her late Voyage on Discoveries
towards the South.

By Mr. WILLIAM BAYLEY.

It appears, from Page 4, that both N^o. 1 and 2 were set 12" too slow for mean time at Drake's Island, in Plymouth Sound, on July the 10th, in the evening; but Mr. Arnold having forgot to wind up N^o. 2 when he set it a going, it stopped, and was set a going again by Mr. Bayley on the 12th, on which day, when N^o. 1 shewed o. h. 30', it shewed 1 h. 23' 45"; and Mr. Bayley remarks, that this Watch was 53' 45", too fast for mean time at Drake's Island on the 13th at noon.—The several rates of going, mentioned on Page 4, were allowed, until our arrival at the Cape of Good Hope.

1772.	Time by Watch		Altitude of the ☉'s L. I.	Longitude West of Drake's Island.		Latitude of the Ship N.	Thermom.		No. of Obs.
	No. 1.	No. 2.		By No. 1.	By No. 2.		C.	D.	
	H "	H "	"	" "	" "	"			
July 15.	20 1 19 ¹	20 55 30	33 4 ¹	2 25 51	2 21 0	47 43	64	62	3
16.	Noon.		63 35			47 29 ¹	65	64	
	6 3 42 ¹	6 57 59 ¹	17 22 ¹	2 52 3	2 44 9	47 11	65 ¹	62	4
17.	Noon.		64 28			46 26 ¹	66	68	
18.	19 21 50	20 16 7 ¹	25 6	3 38 54	3 25 9	45 35	62 ¹	65	3
	10 32 34		56 36						2
	11 32 45		63 15 ¹			45 22			3
19.	Noon.		65 14			45 19	66	64	
20.	Noon.		66 26			43 55 ¹	64	67	
21.	Noon.		66 40			43 29 ¹	65	67	
	6 23 55	7 18 7 ¹	13 32	4 19 37 ¹	3 56 25 ¹	43 26	62	65	3
	19 18 41 ¹	20 12 51 ¹	23 15	4 39 13 ¹	4 13 25 ¹	43 40	61	65	3
22.	Noon.		66 20			43 37 ¹	66	66	
	18 44 50 ¹	19 38 58 ¹	16 18 ¹	5 25 52 ¹	4 56 0	42 36	63	67	3
23.	Noon.		67 29			42 16 ¹	65	68	
24.	Noon.		69 29			40 03 ¹	66 ¹	67	
	6 30 51 ¹	7 25 0 ¹	13 16	7 34 30	7 0 24	39 32	66	67	3
25.	Noon.		71 40			37 40 ¹			
	6 16 59	7 11 10	16 19	8 57 42	8 20 43	37 13	67	67	3
26.	Noon.		73 34			35 31 ¹	71	72	
	6 3 4	6 57 16 ¹	19 27 ¹	10 8 33	9 28 42	35 11 ¹			3
27.	Noon.		75 9			33 43	71	72 ¹	
	6 16 38	7 10 51 ¹	16 57 ¹	10 58 10	10 15 9	33 23	71	72	3
	20 3 41	20 57 54 ¹	20 35 ¹	11 37 45	10 52 54	33 6	70 ¹	71	3
28.	Noon.		75 50			32 48	74	74 ¹	
	5 45 40	6 39 53	24 13 ¹	12 22 55 ¹	11 36 37 ¹	32 40	73 ¹	74	3
30.	The Time-keepers were carried on shore at Funchial, on the island of Madeira, and compared with the Clock by which the times of equal altitudes had been noted, (See page 6.) from whence I find, that N ^o . 1 made the difference of Longitude, between Drake's Island, and the above-mentioned place, 12° 29' 16", and N ^o . 2 made it 11° 37' 57", that is 16° 45' 23 ¹ / ₂ , and 15° 54' 4 ¹ / ₂ West of Greenwich.								
Aug. 2.	Noon.		75 23			32 0 ¹ / ₂	73	72	
	20 59 35	21 53 21 ¹	34 32 ¹	12 52 22 ¹	11 52 45 ¹	30 0	73	74 ¹	4
3.	Noon.		77 24			29 43 ¹ / ₂	75	73	
	6 11 51	7 5 46 ¹	18 4 ¹ / ₂	13 5 52	11 55 9	29 25	72 ¹	72	5
4.	Noon.		78 11			28 40 ¹ / ₂	74	73	
	4 25 44	5 19 39 ¹	41 40 ¹	13 58 30	12 47 58	28 29	74 ¹	73	2

17	Time & Watch		Altitude of the Sun	Longitude West of Drake's Island		Latitude of the Ship N	Thermom		
	H	No		By No 1	By No 2		C	D	
o Alt	1 42 4		37 51 $\frac{1}{2}$			2 29	74 $\frac{1}{2}$	73	1
	7 53 13		35 37 $\frac{1}{2}$	13 52 15		26 29	74 $\frac{1}{2}$	73	
	C 50 28		10 10 $\frac{1}{2}$			21 25	71	74	1
2 — 5	Noon		78 42			27 53	74	74	
	5 22 41 $\frac{1}{2}$		29 18 $\frac{1}{2}$			27 31 $\frac{1}{2}$	74	73	5
	5 52 53 $\frac{1}{2}$		22 38 $\frac{1}{2}$	14 15 45		27 30 $\frac{1}{2}$	71	73	1
4 — 6	Noon		80 12			6 6 $\frac{1}{2}$	74	73	
	20 44 13 $\frac{1}{2}$	21 38 8	28 48 $\frac{1}{2}$	14 44 37 $\frac{1}{2}$	13 36 51	24 32	71	76	1
8 — 7	Noon		81 54			4 87 $\frac{1}{2}$	74 $\frac{1}{2}$	75	
h — 8	Noon		83 34			27 10 $\frac{1}{2}$	73	76	
	6 2 13		20 19 $\frac{1}{2}$	15 22 18		21 50	73	73	
	20 19 15	21 13 17 $\frac{1}{2}$	21 23 $\frac{1}{2}$	16 1 30	14 31 0	20 42	74	71	5
o — 9	Noon		85 18			20 8 $\frac{1}{2}$			
o — 10	Noon		87 8			18 1	77 $\frac{1}{2}$	77	
	22 28 40	23 22 29	49 25 $\frac{1}{2}$	17 57 30	16 19 20	16 29	77	78 $\frac{1}{2}$	5
o — 11	Noon		88 40			16 11 $\frac{1}{2}$			
	1 9 54	22 3 43 $\frac{1}{2}$	30 04	18 23 7 $\frac{1}{2}$	16 41 27	15 12	77	78	1
h — 15	5 45 55	6 39 26	24 45	18 14 7 $\frac{1}{2}$	16 17 10	13 23	79	79 $\frac{1}{2}$	1
	20 40 50 $\frac{1}{2}$	21 34 19	22 46 $\frac{1}{2}$	18 17 0	16 17 30	12 36	79 $\frac{1}{2}$	79	4
o — 16	Noon		88 40			12 21	79	79 $\frac{1}{2}$	
o — 18	Noon		88 23			11 25 $\frac{1}{2}$	80	81	
	5 56 30	6 50 5	19 39 $\frac{1}{2}$	16 24 54	14 19 0	11 18	80	77	4
	19 53 25		13 19	15 57 30		10 47	79	76	3
h — 19	0 21 32	21 13 19	20 27 $\frac{1}{2}$	15 20 0	13 12 0	9 17	78	77	4
h — 21	Noon		86 38			8 41	79	78	
h — 22	Noon		86 11			7 55 $\frac{1}{2}$	79	78 $\frac{1}{2}$	
	20 42 16 $\frac{1}{2}$	21 36 29	28 33 $\frac{1}{2}$	11 56 46 $\frac{1}{2}$	9 45 0	7 4			
o — 23	Noon		85 30			6 53 $\frac{1}{2}$	79	79 $\frac{1}{2}$	4
h — 24	Noon		85 22			6 24 $\frac{1}{2}$			
	45 33	6 39 56	14 58 $\frac{1}{2}$	10 9 0	7 55 0	6 20	79	78	4
h — 25	Noon		85 12			5 53 $\frac{1}{2}$	80	79 $\frac{1}{2}$	
h — 26	20 32 46	21 27 26	30 57	6 49 46	4 31 9	4 27	79 $\frac{1}{2}$	80	4
h — 27	Noon		84 14			4 13 $\frac{1}{2}$	79	80	
	1 26 53	5 21 36	30 7 $\frac{1}{2}$	6 23 27	4 17 50	4 9	77 $\frac{1}{2}$	78	8
h — 28	Noon		84 02			3 40 $\frac{1}{2}$			
	5 2 37 $\frac{1}{2}$	5 57 29	19 41	4 53 43 $\frac{1}{2}$	2 23 30	3 36	76 $\frac{1}{2}$	78	6
h — 29	19 23 32 $\frac{1}{2}$	0 18 29	16 40 $\frac{1}{2}$	4 7 30	1 46 38	3 20	77	77 $\frac{1}{2}$	6
	Noon		83 58			3 15 $\frac{1}{2}$			
	5 16 30 $\frac{1}{2}$	6 11 31	14 44 $\frac{1}{2}$	3 29 25	1 8 15	3 10	76	77	6
o — 30	Noon		83 44		East	2 40	78 $\frac{1}{2}$	78	
h — 31	20 4 8 $\frac{1}{2}$	20 59 26	30 20 $\frac{1}{2}$	0 27 39	1 54 45	2 31	77	78	6
	Noon		84 0			2 34 $\frac{1}{2}$	78	78 $\frac{1}{2}$	
	4 30 54	5 25 53	22 31 $\frac{1}{2}$	0 8 16	2 14 51	2 31 $\frac{1}{2}$	77	78	6
	0 15 21	21 10 41	33 20 $\frac{1}{2}$	0 14 30	2 10 4	2 4	77	78	6
h Sept 1	Noon		83 47			1 59	78	78 $\frac{1}{2}$	
	3 6 41 $\frac{1}{2}$		38 21 $\frac{1}{2}$			1 55 $\frac{1}{2}$	77 $\frac{1}{2}$	78	
	1 42 5 $\frac{1}{2}$	1 38 14	34 26 $\frac{1}{2}$	0 24 57	2 0 51	1 55			

ON BOARD THE ADVENTURE.

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1772.		Time by Watch		Altitude of the ☉'s L. L.	Longitude West of Drake's Island		Latitude of the Ship N.	Thermom.		No. of Obs.
		No. 1.	No. 2.		By No. 1.	By No. 2.		C.	D.	
		H "	H "		" "	" "		" "	" "	
Sept.	2.	Noon.		83 33			1 23 $\frac{1}{2}$	78	78 $\frac{1}{2}$	
"	3.	Noon.		83 32 $\frac{1}{2}$			1 0 $\frac{1}{2}$	77	77 $\frac{1}{2}$	
"	4.	Noon.	20 22 1	18 6 $\frac{1}{2}$	3 29 51	0 58 3	0 53	77	77	6
"	5.	Noon.		83 45			0 51	77 $\frac{1}{2}$	77	
"	6.	Noon.		47 44 $\frac{1}{2}$		West.	0 49	76 $\frac{1}{2}$	77	6
"	7.	Noon.	4 26 35	40 23 $\frac{1}{2}$	3 46 21	1 14 9	0 49	76	77	6
"	8.	Noon.		84 13			0 56 $\frac{1}{2}$	77	77 $\frac{1}{2}$	
"	9.	Noon.		42 39 $\frac{1}{2}$			0 55	77	76 $\frac{1}{2}$	3
"	10.	Noon.	4 39 12 $\frac{1}{2}$	37 22	3 50 46 $\frac{1}{2}$	1 19 45	0 55	77	76 $\frac{1}{2}$	6
"	11.	Noon.		7 59						
"	12.	Noon.		70 10	Altitude of ☉'s L. L.		0 51	76	75 $\frac{1}{2}$	
"	13.	Noon.	20 30 12	20 32 $\frac{1}{2}$	3 6 30	0 27 6	0 40	76	77	6
"	14.	Noon.		84 15			0 35 $\frac{1}{2}$	76 $\frac{1}{2}$	76	
"	15.	Noon.	5 15 15	27 20 $\frac{1}{2}$	2 45 24	0 16 25	0 31	77	76	6
"	16.	Noon.		84 25			0 23 $\frac{1}{2}$	76 $\frac{1}{2}$	76	
"	17.	Noon.					South.			
"	18.	Noon.	20 11 42	21 8 17	3 0 36	0 30 51	0 11	76	75	6
"	19.	Noon.		84 6			0 18	76	75 $\frac{1}{2}$	
"	20.	Noon.	5 4 43 $\frac{1}{2}$	30 35 $\frac{1}{2}$	3 32 33	1 2 16	0 20	76	75	6
"	21.	Noon.	21 3 12 $\frac{1}{2}$	27 56 $\frac{1}{2}$	3 55 6	1 24 15	0 50	76	76	6
"	22.	Noon.		83 52			0 54 $\frac{1}{2}$	76	76 $\frac{1}{2}$	
"	23.	Noon.	6 13 25	14 12 $\frac{1}{2}$	4 18 22 $\frac{1}{2}$	1 46 7 $\frac{1}{2}$	1 0	76	75 $\frac{1}{2}$	6
"	24.	Noon.		83 12			1 57 $\frac{1}{2}$	76	75 $\frac{1}{2}$	
"	25.	Noon.	5 2 9 $\frac{1}{2}$	5 58 59	5 34 10 $\frac{1}{2}$	3 0 15	2 7	75	74	6
"	26.	Noon.	20 50 25	22 19	6 21 19 $\frac{1}{2}$	3 45 31	2 49	75	74	3
"	27.	Noon.		82 33			2 59 $\frac{1}{2}$	76	76	
"	28.	Noon.	5 39 56	24 39	6 44 45	4 8 30	3 10			6
"	29.	Noon.		81 45			4 10 $\frac{1}{2}$	76	75 $\frac{1}{2}$	
"	30.	Noon.	5 47 10	23 34 $\frac{1}{2}$	7 36 20	4 58 45	4 20	76	75	6
"	31.	Noon.	0 54 11	79 21			5 5			
"	32.	Noon.	1 55 15	66 54						
"	33.	Noon.	5 29 33	28 47 $\frac{1}{2}$	8 37 36	5 56 36	5 15	76	75	3
"	34.	Noon.		80 12			6 29 $\frac{1}{2}$	75	75 $\frac{1}{2}$	
"	35.	Noon.	6 4 34	21 4 $\frac{1}{2}$	9 38 46	7 0 15	6 41			3
"	36.	Noon.		78 55			8 9 $\frac{1}{2}$	75	75	
"	37.	Noon.	21 9 40	22 7 24 $\frac{1}{2}$	11 0 0	8 19 30	9 26			4
"	38.	Noon.		36 19						
"	39.	Noon.	1 19 23	74 20 $\frac{1}{2}$			9 37			
"	40.	Noon.	2 26 2	60 47 $\frac{1}{2}$						
"	41.	Noon.	6 24 33 $\frac{1}{2}$	17 33 $\frac{1}{2}$	11 20 14	8 40 55	9 52	73	73 $\frac{1}{2}$	3
"	42.	Noon.	21 24 24	39 5 $\frac{1}{2}$	11 45 27	9 7 3	10 47	73 $\frac{1}{2}$	73	4
"	43.	Noon.		76 51			11 0 $\frac{1}{2}$	75	73 $\frac{1}{2}$	
"	44.	Noon.	21 5 14	33 48	12 21 5	9 40 34	12 12	75	74	3
"	45.	Noon.		75 49			12 26 $\frac{1}{2}$	75	74	
"	46.	Noon.	20 28 28	24 3 $\frac{1}{2}$	13 13 53	10 17 3	13 48 $\frac{1}{2}$	73	72 $\frac{1}{2}$	5
"	47.	Noon.		74 34			14 4 $\frac{1}{2}$	74	73	
"	48.	Noon.	9 52 29	14 54			15 19			
"	49.	Noon.	20 15 58	20 24 $\frac{1}{2}$	13 54 25	11 10 10	15 20			6

1772	Time by Watch		Altitude of the ☉ : L L	Longitude West of Drakes Island		Latitude of the Ship	11	10	9
	No 1	No 2		By No 1	By No 2				
	H	H							
O Sept 20	Noon		73 26			15 45	/	/	
	12 14 54	22 13 11	33 39 $\frac{1}{2}$	14 40 30	11 50 0	16 56			1
9 — 1	Noon		72 16			17 19			
	20 33 59	21 37 17 $\frac{1}{2}$	24 42 $\frac{1}{2}$	15 5 45	12 15 0	18 21			3
	20 52 42 $\frac{1}{2}$		27 48 $\frac{1}{2}$			18 25			3
	23 19 37		16 7 $\frac{1}{2}$			18 25 $\frac{1}{2}$			
8 — 22	Noon		71 9			18 30 $\frac{1}{2}$	/	/	
	21 32 48 $\frac{1}{2}$	2 31 12	36 35 $\frac{1}{2}$	15 35 30	12 42 51	19 51			
H — 23	Noon		70 03			20 6 $\frac{1}{2}$	/	/	
	11 21 14	22 19 49	33 28 $\frac{1}{2}$	15 57 45	13 4 27	21 19			3
	Pocket	10 41 52	50 58						
	Watch	12 7 13	65 49			21 30			
H — 24	Noon		69 5			21 28	/	/	
8 — 25	Noon		68 6			2 50 $\frac{1}{2}$	/	/	
	20 32 47 $\frac{1}{2}$	21 30 13 $\frac{1}{2}$	21 17 $\frac{1}{2}$	17 20 7	14 3 9	23 59			3
H — 26	Noon		67 7			24 12 $\frac{1}{2}$	2	/	
	20 4 21	21 0 24	15 14 $\frac{1}{2}$	17 7 12	13 26 15	24 30			4
O — 27	Noon		67 3			24 40	/	/	
	20 9 43	21 5 36	16 46 $\frac{1}{2}$	16 56 45	13 10 1	25 14	/	/	
H — 28	Noon		66 38			25 24 $\frac{1}{2}$			
	0 16 01	21 12 1	19 6 $\frac{1}{2}$	16 4 16	12 16 0	26 4			1
8 — 29	Noon		66 16 $\frac{1}{2}$			6 11 $\frac{1}{2}$	71	/	
	4 33 10	5 29 13 $\frac{1}{2}$	32 2 $\frac{1}{2}$	15 24 0	11 35 0	26 16			3
H — 30	Noon		65 55 $\frac{1}{2}$			26 58	/	/	
	5 20 52	6 17 8	19 25 $\frac{1}{2}$	12 57 45	9 9 0	7 5 $\frac{1}{2}$			
14 Oct 1	Noon	20 33 44 $\frac{1}{2}$	14 55				/	0	
	4 35 34	5 31 56	27 48 $\frac{1}{2}$	11 8 25	7 17 45	27 25	/	/	
	19 21 22 $\frac{1}{2}$	20 17 15 $\frac{1}{2}$	12 21 $\frac{1}{2}$	10 43 35	6 43 16	27 27			
8 — 2	Noon		66 7			27 29			1
	5 33 39	6 29 16	14 9 $\frac{1}{2}$	9 58 54	5 53 30	27 33 $\frac{1}{2}$			
			0 26 $\frac{1}{2}$	0 3 L L		27 40	66	6	1
H — 3	Noon		66 0			27 12	66	6	
	5 24 59 $\frac{1}{2}$	6 20 36	14 37 $\frac{1}{2}$	8 15 10	4 6 15	28 4	66	6	
O — 4	Noon		65 29			28 10			4
	5 0 44	5 55 47	17 48 $\frac{1}{2}$	5 46 27	1 26 0	28 54 $\frac{1}{2}$	62 $\frac{1}{2}$	60	
H — 5	Noon		65 50			29 6			1
	4 9 11		27 46 $\frac{1}{2}$	4 17 45		29 0	60	6 $\frac{1}{2}$	
						28 51	63	/	1

Here Mr Bayle remarks, that the Watch (No 2) began to go very irregularly, from what cause he could not tell and on this account he left off computing the Longitude of the Ship from it

1772.	Time by Watch, No. 1.	Altitude of the \odot 's L. L.	Longitude West of Drake's Island.	Latitude of the Ship S.	Barometer.	Thermom. C. D.		Remarks.
	H	° ' "	° ' "	° ' "				
8 Oct. 6.	Noon.	65 31		29 32 $\frac{1}{2}$		64	61	
	20 0 38	26 46 $\frac{1}{2}$	4 53 48	31 0		63	59	3
7.	Noon.	64 18		31 18 $\frac{1}{2}$		64	59	
	5 28 33	11 22 $\frac{1}{2}$	4 52 51	31 34		64	58	3
8.	Noon.	63 17		32 42		64	59	
	20 20 8	31 57 $\frac{1}{2}$	3 25 34	33 40		64	58	5
9.	Noon.	62 30		33 52 $\frac{1}{2}$		64	59	
10.	Noon.	62 17		34 28 $\frac{1}{2}$		64	61	
	4 54 58	15 26 $\frac{1}{2}$	0 53 16	34 34		64	62	6
11.	Noon.	62 27		34 41		66	59	
			East.					
	4 33 27	18 58 $\frac{1}{2}$	0 21 49	34 44		64	61	6
	18 41 53	15 54 $\frac{1}{2}$	0 40 33	34 45		63	58	6
12.	Noon.	62 41		34 49 $\frac{1}{2}$		66	65	
	4 59 16	13 23	0 56 31	34 51		65	64	3
13.	Noon.	62 44		35 9	29.8	64	65	
14.	Noon.	62 46		35 29 $\frac{1}{2}$	29.9	65	60	
	18 55 49	23 38 $\frac{1}{2}$	5 49 27	35 33		64	62	5
15.	Noon.	62 46		35 33		64	61	
	4 12 38 $\frac{1}{2}$	18 37 $\frac{1}{2}$	6 44 7	35 32				6
	18 41 4 $\frac{1}{2}$	23 15 $\frac{1}{2}$	8 42 36	35 18				6
16.	Noon.	63 46		35 14		65	62 $\frac{1}{2}$	
	18 11 47	19 28 $\frac{1}{2}$	11 3 54	35 3		63	57	3
17.	Noon.	64 25		34 57 $\frac{1}{2}$		63	59	
18.	Noon.	65 11		34 32 $\frac{1}{2}$	29.96	63	59	
	3 41 15	19 0 $\frac{1}{2}$	14 47 0	34 39				3
19.	Noon.	65 43		34 21 $\frac{1}{2}$	29.97	64	59	
	3 53 38	16 9 $\frac{1}{2}$	15 19 0	34 24				4
	18 26 19	26 52 $\frac{1}{2}$	15 34 0	34 37				4
20.	Noon.	65 41		34 45 $\frac{1}{2}$	29.9	64	59	
	17 7 6	11 5 $\frac{1}{2}$	15 41 0	35 12	29.9	62	54	5
	Meridian } Altitude. }	43 23 $\frac{1}{2}$	D's U. L.	35 18 $\frac{1}{2}$				
21.	Noon.	65 17		35 31 $\frac{1}{2}$	30.2	65	59	
22.	Noon.	64 20		36 49	29.8	65	59	
23.	Noon.	64 20		37 10	29.9	64	59	
24.	Noon.	65 12		36 38 $\frac{1}{2}$	30.1	62	57	
	3 54 33	13 31 $\frac{1}{2}$	20 9 18	36 29	29.9	62	54	6
25.	Noon.	66 45		35 26	30.2	60 $\frac{1}{2}$	56 $\frac{1}{2}$	
	3 31 22	16 22 $\frac{1}{2}$	21 56 24	35 19	30.0	61	57	6
26.	Noon.	67 49		34 43	30.0	61	58 $\frac{1}{2}$	
	3 6 11	20 46	23 0 9	34 35	30.0	60	56	4
27.	Noon.	69 6		33 46 $\frac{1}{2}$	30.0	64	61	
	3 31 30	14 46 $\frac{1}{2}$	24 6 4	33 46 $\frac{1}{2}$	30.0	60	56 $\frac{1}{2}$	6
28.	Noon.	69 34		33 38	30.0	64	62 $\frac{1}{2}$	
	3 12 45	18 6 $\frac{1}{2}$	24 57 15	33 44	29.9	62	59 $\frac{1}{2}$	3

Back Observation.

1772	Time by No 1		Altitude of the ☉ L L	Longitude from the Cape	Latitude of the Ship S	Baro meter	Thermom			Remarks
	H	"					C	D	W	
4 Oct 29	Anchored in Table Bay, and on November 4th, Mr Bayley computed the watch No 1 with the clock C, and continued to do so every day until the 11th from which comparisons he computed that it was then losing it the rate of 30 3 1 day on mean solar time; and that when it was compared with the clock on November the 4th, it was 1 h 49 9, 1 too slow for mean time at the Cape of Good Hope. Consequently, allowing the rate it went at, when at Greenwich this watch will make the Cape of Good Hope 27° 3, 1/4 E of Drake's Island in Plymouth Sound or, allowing Drake's Island to lie in 4° 16 1/2 West, 23 21 1/2 S of Greenwich that is, 4 58 1/2 more than the Observations of Messrs Mason and Dixon make it. The watch No 2 went so imperfectly, for some time before our arrival at this place, that I apprehend it will be quite unnecessary to make any computation of its rate of going at the Cape, or the longitude shewn by it. It stopped entirely before we left the place									
6 Nov 2	We sailed out of Table Bay, and at noon Mr Bayley computed that the watch was 1 h 55 12, 6 too slow for mean time at the Cape of Good Hope on which supposition, and that its rate of going is as above determined, the longitude of the ship will be computed in future									
16 42 18	21 23 1/2	0 33 48 W	35 13	67	61	31				
3 39 56	16 4	1 49 52 W	37 43	66	62	3				
17 4 9	28 36 1/2	2 34 0 W	38 40	66	60	4				
Noon	71 55		39 0 1/2							
Noon	71 5		40 1 1/2							
3 30 8 1/2	18 35 1/2	1 42 43 W	40 18	66 1/2	53	4				
Noon	70 22		40 54 1/2	64	59					
Noon	69 19		42 7 1/2	63	52					
Noon	69 11		42 45 1/2	62	55					
3 17 8 1/2	20 49 1/2	0 24 6 W	42 33	63	52	4				
3 35 37	17 51 1/2		44 46	57	46	4				
Noon	66 27		45 43 1/2	55 1/2	45					
21 42	27 19 1/2	0 15 18 E	45 56	54	42	6				
Noon	65 9		47 9 1/2	53 1/2	46					
3 45 37	17 28 1/2	0 14 34 E	48 39	50 1/2	35	4				
Noon	62 43		49 49	49	42					
Noon	62 58		49 46	49	34					
1 28 46	15 38 1/2	2 54 4 1/2 E	50 44	48	31 1/2	6				
Noon	61 46		51 3 1/2	49	35					
Noon	61 4		51 50							
3 1 55	23 27 1/2	3 20 12 E	52 5	47	33	4				
17 21 49	34 25 1/2	5 21 34 E	55 13	44	31	3				
Noon	57 52		55 21							
1 9 55	16 20 1/2	6 15 45 E	55 6	44	30 1/2	3				
Meridian										
Altitude	37 28	3 2 U L	55 5							
3 4 1 1/2	15 42 1/2	7 33 30 E	54 22	44	31 1/2	3				
Noon	59 09		54 7	45	34					
3 1 12	19 44 1/2	11 26 48 E	54 34	45	31 1/2	4				
Noon	56 24		54 51 1/2	45	31 1/2					

1772.	Time by No. 1.		Altitude of the ☉'s L. L.	Longitude East of the Cape.	Latitude of the Ship S.	Barometer.	Thermom.		No. of Obs.	Remarks.
	H	"					C.	D.		
♂ Dec. 22.	15	34 16	23 49 $\frac{1}{2}$	13 44 15	55 20		45	32	3	
♂ — 23.	Noon.		57 51		55 24		48	31 $\frac{1}{2}$		
	16	59 18 $\frac{1}{2}$	35 33 $\frac{1}{2}$	13 37 0	56 19		46	32	6	
u — 24.	Noon.		56 44		56 29 $\frac{1}{2}$	29,35	50	34		
h — 26.	Noon.		54 40		58 29 $\frac{1}{2}$	29,35				Very good.
	3	34 32	17 52 $\frac{1}{2}$	8 29 31 $\frac{1}{2}$	58 33	29,4	46	32	6	Ditto.
	4	22 0	12 8 $\frac{1}{2}$	8 23 21	58 34	29,4	46	32	4	Ditto.
o — 27.	Noon.		54 46:		58 20 $\frac{1}{2}$	29,5	47	35		Hazy.
♂ — 29.	Noon.		53 49:		59 11	29,1	49	33		Ditto.
h — 30.	Noon.		53 34:		59 21 $\frac{1}{2}$	29,15	50	34		Ditto.
				West.						
	2	21 14	32 4 $\frac{1}{2}$	1 12 51	59 26	29,1	47	32	7	Ditto.
1773.										
h Jan. 2.	Noon.		53 23:		59 17 $\frac{1}{2}$					Very hazy.
	3	9 3	29 01 $\frac{1}{2}$	7 23 27	59 01	29,3	47	31 $\frac{1}{2}$	6	
	5	4 20	14 28 $\frac{1}{2}$	7 26 15	58 56	29,55	46	31	4	
	Meridian } Altitude. }		19 33	♂'s U. L.	58 49 $\frac{1}{2}$	29,5	46	31		
h — 4.	Noon.		53 27		59 01	29,48	46	33		Hazy.
	9	53 0	51 59	Pocket }						
h — 6.	11	7 5	48 22	Watch. }	59 59	Ship's course E. by S. true, five miles an hour.				
				East.						
	14	10 51	11 17 $\frac{1}{2}$	9 24 54	60 25	29,1	45	33	3	A little hazy.
	14	36 46	14 15 $\frac{1}{2}$	9 30 30	60 27	29,1	45	33	4	Ditto.
	16	39 28	29 14 $\frac{1}{2}$	9 47 40	60 30	29,1	47	33 $\frac{1}{2}$	3	Ditto.
h — 7.	Noon.		51 30 $\frac{1}{2}$		60 36	29,0	50	34		Ditto.
	15	24 46	21 59	13 47 0	61 13	28,95	45	32	4	Very clear.
	7	16 41	46 59	Pocket }		Ship's true course E. S. E. $\frac{1}{2}$ E. distance				
	9	17 30	50 30	Watch. }	61 19 $\frac{1}{2}$	run, 10 $\frac{1}{2}$ miles between the Observations.				
♂ — 8.	14	49 39	19 8 $\frac{1}{2}$	16 41 30	61 33	28,91	45	32 $\frac{1}{2}$	4	Pretty clear.
h — 9.	Noon.		50 15		61 35	29,07	47	35		Good.
	6	27 19	43 34	Pocket. }		Correct course S. S. E. 3 miles an hour.				
	8	7 15	49 21	Watch. }	61 55	Course, &c. as before.				
o — 10.	9	16 5	49 18	Ditto.	61 57	Course, &c. as before.				
	1	32 20 $\frac{1}{2}$	27 3 $\frac{1}{2}$	18 49 30	62 10	29,1	46	33	4	Clear, and Good.
	Meridian } Altitude. }		14 30	♂'s L. L.	62 44					
	16	25 7	31 10 $\frac{1}{2}$	19 40 57	63 4	29,2	48	32 $\frac{1}{2}$	4	
	7	29 18	46 42	Pocket }						
h — 11.	9	21 24	47 31	Watch. }	63 22					
	13	39 22	13 31 $\frac{1}{2}$	20 37 30	64 13	29,3	47	33	3	
♂ — 12.	Noon.		47 08		64 14	29,35	50	35		Good.
	1	57 42	23 0 $\frac{1}{2}$	20 43 6	64 12	29,32	49	34	5	
h — 13.	Noon.		46 59		64 13 $\frac{1}{2}$	29,4	49	34		Good.
	16	46 6	33 23	21 30 01 $\frac{1}{2}$	64 02	29,3	46	32 $\frac{1}{2}$	3	
u — 14.	Noon.		47 01		63 59 $\frac{1}{2}$	29,25	49	35 $\frac{1}{2}$		

1773	Time by No 1	Altitude of the \odot s L. L.	Longitude East of the Cape	Latitude of the Ship South	Baro meter	Thermo		Wind	Remarks	
						C	D			
14 Jan	14	2 48 16	16 48 $\frac{1}{2}$	21 38 28 $\frac{1}{2}$	63 57	9	47	33	3	
		15 39 39 $\frac{1}{2}$	26 24 $\frac{1}{2}$	21 52 25 $\frac{1}{2}$	63 37	29,05	49	31	4 Good	
15	Noon	47 15			63 35	29 05	50	47	4 Ditto	
16	Noon	46 7			64 32	29,0	49	36	4 Ditto	
	2 22 1	19 25 $\frac{1}{2}$	21 35 30	64 48	29,0	48	33	3		
17	Noon	43 53			66 34	28 9	47	32	3 Hazy	
	25 0 $\frac{1}{2}$	25 7 $\frac{1}{2}$	21 23 39	67 2	28,9	46	33	6	1 Hazy	
18	Noon	44 16			65 58	28,95	46	33	6 Very hazy	
	1 14 40	26	21 37 46 $\frac{1}{2}$	65 38	28,9	45	32 $\frac{1}{2}$	6	Bad horizon	
19	Noon	45 32	22 7 9	61 45	28,95	46	33	3	3 Ditto, and high sea	
20	0 57 8 $\frac{1}{2}$	27 25 $\frac{1}{2}$	22 37 10 $\frac{1}{2}$	63 45	28,7	45	32 $\frac{1}{2}$	3	3 A little hazy	
	16 28 45	31 30 $\frac{1}{2}$	23 29 30	62 57	29,0	46	33 $\frac{1}{2}$	3		
21	1 46 24	21 10 $\frac{1}{2}$	23 54 4 $\frac{1}{2}$	62 28	28 75	47	31	3		
22	Noon	47 48			61 33 $\frac{1}{2}$	29 25	49	31	3 Good	
23	Noon	49 06	-5 58 3	60 25	29 25	47	34	6	1 lying clouds	
24	Noon	50 29			60 02 $\frac{1}{2}$	29 1	47	33	3 Good	
	0 17 30 $\frac{1}{2}$	28 25 $\frac{1}{2}$	32 15 9	58 5	29,13	46	33	3	3 Hazy	
	2 39 7	9 14 $\frac{1}{2}$	32 23 31	58 1	29,2	48	33	3	3 Bad horizon, and a	
26	15 55 0	33 15 $\frac{1}{2}$	33 45 15	56 44	28 75	45 $\frac{1}{2}$	33	4	4 high sea	
27	Noon	51 38			56 29 $\frac{1}{2}$	29,0	47	35		
	0 47 38	22 6 $\frac{1}{2}$	34 3 21	56 12	29,1	47	33	3	3 Very good	
	15 24 19	21 16	34 35 27	55 3	29,5	48	36	6	6 Ditto	
28	Noon	53 20			54 31 $\frac{1}{2}$	29,5	48	36		
29	Noon	55 8			52 27 $\frac{1}{2}$	29,55	48	37	3 Hazy, and a great sea	
30	15 10 11	31 11 $\frac{1}{2}$	40 7 54	51 10	29 55	44	38	6	6 Very good	
31	8 0 53	55 2	Pocket							
	9 5 8	49 46	Watch	50 48						
Feb	2	14 58 34	29 49 $\frac{1}{2}$	40 35 22	49 10	30,0	49	41	5	5 Very good
	7 53 27	56 24	Pocket							
	9 20 21	47 27	Watch	48 32						
	0 39 41 $\frac{1}{2}$	15 43 $\frac{1}{2}$	43 7 34	48 1						
	13 26 1	16 42 $\frac{1}{2}$	44 8 4	48 42	30,15	54	44	5	5 Very good	
	5 35 55	53 39	Pocket		30,1	51	43	6	6 Ditto	
	6 44 29	57 32	Watch	48 45						
3	14 59 36	30 59 $\frac{1}{2}$	42 56 33	49 4	29,8	50	43	4		
4	Noon	50 38			49 15					
	0 57 40 $\frac{1}{2}$	13 5	42 23 48	49 37	29,7	49	43	3		
	14 45 46	28 6 $\frac{1}{2}$	42 1 52 $\frac{1}{2}$	49 12	29,55	51	40	6		
5	Noon	56 30			49 3 $\frac{1}{2}$	29,5	52	41 $\frac{1}{2}$	6	6 Good
	0 20 34	18 54 $\frac{1}{2}$	42 2 1 $\frac{1}{2}$	48 34	29,6	49	40 $\frac{1}{2}$	6		
6	13 40 19	11 46 $\frac{1}{2}$	44 4) 13 $\frac{1}{2}$	48 38	29,45	50	43	6	6 Clear and good horizon	
7	Noon	56 5			48 52 $\frac{1}{2}$	29,8	52	44	6	6 Very good
8	0 19 36	16 2 $\frac{1}{2}$	45 58 27	49 4	29,85	48	42	6	6 Hazy	
9	Noon	54 2			50 17 $\frac{1}{2}$					6 Good

ON BOARD THE ADVENTURE.

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1773.	Time by No. 1.	Altitude of the ☉'s L. I.	Longitude East of the Cape.	Latitude of the Ship South.	Barometer.	Thermom.		No. of Obs.	Remarks.
						C.	D.		
8 Feb.	9.	13 33 16	19 39½	48 47 9	50 13	29,6	49 39	6	
8	10.	Noon.	54 7		49 52½	29,4	51 40		Good.
		12 48 29	12 39½	49 18 10	50 00	29,15	51 40	4	
21	11.	Noon.	53 22		50 18½	28,9	52 42		Good.
2	12.	12 53 49	16 00½	53 48 10½	51 00	29,6	47 37	6	
○	14.	Noon.	51 01		51 39½	29,5	51 39½		Good.
		21 23 22	33 2½	58 41 51	51 47	29,6	50 38	6	
		13 9 31	22 22½	60 57 21	52 10	29,65	47 37	6	
3	15.	Noon.	50 7		52 13	29,7	50 39		Good.
		14 27 45	34 53½	63 39 00	52 27	29,65	44 36	4	
8	17.	13 33 9	30 35½	70 39 6	52 54	28,95	46 37	6	
24	18.	Noon.	48 26		52 51½	29,05	46 40		Good.
		2 33 44	40 12	Pocket Watch.	52 35	Ship's course at right angles to the Sun's bearing at the first Observation.			
		4 11 16	47 41						
2	19.	11 18 29	15 14½	78 37 27	52 20	29,1	42 36	6	
5	20.	Noon.	48 19		52 16	29,05	49 36½		
		10 44 42	12 4½	82 16 48	52 18	29,5	51 40	6	
○	21.	Noon.	48 00		52 14	29,6	53½ 41		
		21 42 52½	13 02½	83 3 3	52 9	29,55	48 38	3	
3	22.	13 11 7	34 56½	86 10 30	52 20	28,35	49 39	4	
8	23.	Noon.	47 13		52 17½	28,5	51 41½		Good.
		22 10 35½	5 10½	87 57 42	52 16	28,45	51 41½	4	Bad horizon.
		11 56 6	26 8½	88 57 42	52 9	28,3	53 40	6	
2	24.	Noon.	47 1		52 7½	28,5	54 43		Good.
		11 46 24½	26 34½	92 22 28½	51 47	29,35	52 41	6	
24	25.	Noon.	47 5		51 41½	29,45	53 45		Good.
		20 19 32	17 38½	94 6 48	51 35	29,65	49 40	5	
		10 28 55	17 9½	96 9 39	51 21	29,95	53 43	6	
5	27.	9 26 44	12 3	104 3 30	50 29	29,2	55 43	6	
○	28.	Noon.	47 15		50 24	29,45	54 43½		Good.
		19 31 31	16 50½	105 56 49	50 15	29,3	53 54	4	
		9 52 48	18 20	107 25 21	49 24	29,55	54 47	6	
8 March	3.	19 29 37	10 52½	114 19 34	45 56	29,5	55 52	5	
		8 40 53½	11 27½	115 24 15	45 14	29,7	57 49	6	
24	4.	Noon.	51 20		44 48				
		18 17 34	21 45	116 25 30	44 32	29,65	54 51	4	
		Regulus.	31 40	Meridian Altitude.	44 21				
		9 45 16	24 41½	118 18 48	44 08	29,85	59 52	6	
2	5.	Noon.	51 42		44 3½	29,75	59 56		Good.
		9 4 36	19 54½	121 44 30	43 55	29,8	58 53	4	
5	6.	Noon.	51 24		43 57½	29,6	58 52		
		18 15 43	16 37½	123 29 21	43 54	29,45	58 51½	4	
		8 33 55½	16 3	124 13 3	43 46	29,7	56 51	6	
○	7.	Noon.	51 13		43 46½	29,75	59 52½		
		18 17 14	14 39½	125 12 24	13 47	29,9	59 54½	6	

1773	Time by N ^o 1	Altitude of the ☉ at L I	Longitude East of the Cape	Latitude of the Ship South	Baro- meter	Ther- mo- m- eter	C	D	Notes
	H								
○ March 7	9 15 27	24 49 $\frac{1}{2}$	126 33 37	43 45	29,9	59	54	6	
☾ — 8	Noon	50 55		43 40 $\frac{1}{2}$	29,9	59	55		Good
☽ — 9	Noon	50 27 $\frac{1}{2}$		43 45 $\frac{1}{2}$	30,0	59	57		A little hazy
	17 26 33	20 11	129 1 31	43 42	30,1	57	54	6	{ The S. E. mt of Van Diemen's I. at N 5 mile
	9 11 21	26 15 $\frac{1}{2}$	130 22 49	43 22	30,15	64	56	6	{ At anchor off the entrance of Adventure Bay
☾ — 11	Noon	50 1	Dip 2 0	43 22 $\frac{1}{2}$	29,95	62	57		{ In the Entrance of Adventure Bay
☽ — 12	Noon	49 35	Dip 2 0	43 24	30,0	65	58		{ In the bottom of Adventure Bay
☾ — 15	Noon	48 31		43 20 $\frac{1}{2}$					{ At the entrance of Adventure Bay
	17 42 13 $\frac{1}{2}$	14 01 $\frac{1}{2}$	130 38 43 $\frac{1}{2}$	43 23	29,5	61	51	6	{ Off the entrance of Adventure Bay
	7 34 51	9 15	131 23 53	43 34	29,7	65	52	6	{ Off Van Diemen's I
☽ — 16	Noon	48 19 $\frac{1}{2}$		43 8 $\frac{1}{2}$	29,65	64	53		{ About four or five leagues off shore
	8 26 43	18 46 $\frac{1}{2}$	131 32 30	42 10	29,7	64	53		{ Van Diemen's I. and from S. W. to N. W. 4 W
☽ — 17	Noon	49 20		41 44 $\frac{1}{2}$	29,9	64	54		{ St. Patrick's Head, W. N. W. 4 leagues
	7 37 34	10 51	131 57 8	40 47	29,85	62	53	6	{ The land from W. 4 W. S. to N. W. 1 y N
☾ — 18	Noon	50 19		40 21 $\frac{1}{2}$	29,95	65	54 $\frac{1}{2}$		{ The land from S. to N. W. 1 y N 7 leagues
	8 5 52	15 17 $\frac{3}{4}$	131 33 55	39 44	30,15	63	57	6	{ Saw the 1 st Group W. S. W. 4 W. distance 11 leagues
☽ — 19	Noon	50 56		39 21	30,05	64	59		A little hazy
	7 39 19	11 23	133 21 6	39 20	30,15	65	60	4	
☾ — 20	Noon	50 31		39 22 $\frac{1}{2}$	30,1	66	61		
○ — 21	17 19 43	14 37 $\frac{1}{2}$	133 57 41	39 20	30,15	63	56	6	
	Noon	50 19		39 16 $\frac{1}{2}$	30,15	65	59 $\frac{1}{2}$		
☽ — 23	6 58 25	5 24 $\frac{1}{2}$	136 7 30	39 32	30,1	64	57	6	
	8 30 59 $\frac{1}{2}$	24 26 $\frac{1}{2}$	138 32 45	38 55	30,1				
	9 38 11	35 39							
	11 25 40	47 46		38 58	{ The Sun bore N. E. 4 E. at the first Observation and the ship's course was S. by E. 3 miles an hour.				
☽ — 24	Noon	49 21 $\frac{1}{2}$		38 57 $\frac{1}{2}$	30,05	61	58		
	7 34 31	15 10 $\frac{1}{2}$	140 25 10	39 17	30,05	61	58	3	
☾ — 25	Noon	48 34		39 20 $\frac{1}{2}$	30,1	62	60		
	17 0 39	10 57	141 4 45	39 26	30,3	63	60	6	
	7 22 0	13 58 $\frac{1}{2}$	142 14 41	39 58	30,25	65	61	6	
☽ — 26	Noon	47 26		40 6 $\frac{1}{2}$	30,25	63	61 $\frac{1}{2}$		
	16 49 51	10 51	143 11 31	40 12	30,35	62	59	6	
☾ — 27	7 8 19	12 32 $\frac{1}{2}$	144 0 6	40 13	30,45	66	61 $\frac{1}{2}$	6	
	Noon	46 54 $\frac{1}{2}$		40 14 $\frac{1}{2}$	30,5	65	61		

[illegible]

ASTRONOMICAL OBSERVATIONS,

If we compute all the way from England, at the rate it was going at Greenwich it will make this place 199 59 39 East of Drake's Island, in Plymouth Sound on 195 43 31 $\frac{1}{2}$ East of Greenwich
 June 7th we left Queen Charlotte Sound on which day at noon Mr Layley calculates that the Witch was 1, 1, 6 too slow for mean time at this place on which supposition, and that its rate of going was losing 25, 66 a day on mean time, (See p 48) he computed the following Longitudes of the ship He more over supposes, that the true Longitude of Queen Charlotte's Sound is 173 56 30 East, which is what his Observations, made there this time gave it

1773	Time by Vols	Altitude of the Sun	Longitude East of Greenwich	Latitude of the Ship South	Barometer	Thermom		Z to 101	Remarks
						C	D		
D June 7	6 29 16	6 26 $\frac{1}{2}$	174 23 3	41 10 $\frac{1}{2}$	30 1	59	49 $\frac{1}{2}$	6	
W — 9	6 11 48	5 4 $\frac{1}{2}$	179 0 4 $\frac{1}{2}$	43 49 $\frac{1}{2}$	29,6	59	53	6	
Th — 12	7 15 18 $\frac{1}{2}$	13 14 $\frac{1}{2}$	184 31 24	46 17	29,95	60	50	6	
Fr — 14	Noon	19 50		46 43 $\frac{1}{2}$	29 6	61	48 $\frac{1}{2}$	6	A little hazy
S — 15	Noon	19 45		46 45 $\frac{1}{2}$	29 7	61	49	6	Good
Mon — 17	12 29 20	9 18 $\frac{1}{2}$	185 2 55	16 51	29 8	60	48	6	
Tue — 18	Noon	20 6		16 19 $\frac{1}{2}$	29,8	59	49	6	Good
	Noon	20 35		15 49 $\frac{1}{2}$	29 9	59 $\frac{1}{2}$	49	6	Good
	5 57 5	7 41 $\frac{1}{2}$	189 40 50	43 15	30,1	58 $\frac{1}{2}$	47 $\frac{1}{2}$	6	
	7 19 2	16 12							
	10 5 27	20 17		45 12 $\frac{1}{2}$					
Th — 19	8 38 32	21 34							
O — 20	9 38 0	21 24		14 30					
D — 21	5 54 1	10 44 $\frac{1}{2}$	195 34 40	44 30	30,4	59	51	5	
Fr — 22	Noon	21 50		44 32 $\frac{1}{2}$	30,15	59 $\frac{1}{2}$	52	5	
W — 23	Noon	21 47		44 35 $\frac{1}{2}$	30,0	62	50	5	
Th — 25	5 42 11 $\frac{1}{2}$	11 37	196 55 45	42 58	29,45	62	52	6	
Fr — 26	Noon	23 27		43 5 $\frac{1}{2}$	29 3	67	55	6	
O — 27	Noon	24 5		42 23 $\frac{1}{2}$	29,35	63	53	6	
D — 28	8 36 44	11 29 $\frac{1}{2}$	197 40 12	12 24	29,4	62	52	5	Bad horizon
	Noon	24 8		12 24	29,35	64	53	5	
Fr — 29	4 37 54	3 49 $\frac{1}{2}$	198 24 52	42 40	29,45	62	53	6	Hazy
	Noon	23 49		42 45 $\frac{1}{2}$	29 35	67	53	6	
	11 41 56	11 28 $\frac{1}{2}$	198 24 54	42 52	29,55	70	52	6	
W — 30	5 30 1	11 11 $\frac{1}{2}$	199 13 12	12 56	29,55	63	51	6	
	Noon	23 39		42 59 $\frac{1}{2}$	29,45	63	51	6	
Th July 1	5 47 17 $\frac{1}{2}$	14 57 $\frac{1}{2}$	201 11 21	43 7	29,7	62	49	6	
	Noon	23 36		43 5 $\frac{1}{2}$	29,65	63	50	6	
Fr — 2	4 38 39	6 26 $\frac{1}{2}$	202 44 40	43 0	29,8	62	49	6	
	Noon	23 47		42 59	29,75	64	51	6	
	11 50 32	7 59 $\frac{1}{2}$	202 59 41	43 0	29,85	66	50	6	

1773.	Time by No. 1.	Altitude of the ☉'s L. L.	Longitude East of Greenwich.	Latitude of the Ship South.	Barometer.	Thermometer.		No. of Obs.	Remarks.
						C.	D.		
2 July	4 36 44	6 52½	204 1 39	43 9	29,65	60	47½	6	
h —	Noon.	23 37		43 13½	29,8	67	53½		
o —	11 38 31½	8 32½	204 39 30	43 17	29,65	64	51	6	
o —	Noon.	22 58		43 57½	29,9	59	50½		
h —	11 24 32	9 39½	205 23 34	43 47	29,9	61	48½	6	
h —	4 32 37	9 20½	207 59 8	42 17	29,75	59	52	6	
h —	Noon.	25 1		42 5½	29,75	61½	52½		
h —	11 30 31½	8 43½	208 16 25	41 52	29,85	59	49	6	
h —	4 5 24½	6 43½	208 50 6	41 21	29,6	59½	52	6	
h —	Noon.	25 55		41 17½					
h —	4 7 34½	7 43½	210 22 54	41 51	29,55	59	52	6	
h —	6 40 30	23 33	Pocket Watch.	41 57	☉ north at the first Observation. Ship's course E. S. E. at the rate of six miles an hour.				
h —	8 34 15	24 27			29,75	59½	52½	5	
h —	4 17 50	10 3½	212 43 48	42 33	29,9	60	51½		
h —	Noon.	24 48		42 38½	29,85	60	51½	6	
h —	11 16 15	7 35½	213 12 16	42 43	29,8	58	55	6	
h —	4 6 3½	9 25½	215 21 13	43 28	☉ N. N. E. & E. at the first Observat. Ship's course E. S. E. & E. Dist. run 20 miles.				
h —	4 34 49	13 7	Pocket Watch.	43 38½	30,0	57	46	5	
h —	8 13 16	23 1			30,15	61	47		
h —	4 2 3½	10 13½	217 43 30	43 32	30,25	59	47	6	
h —	Noon.	24 11		43 30½	30,3	59½	51½		
h —	3 40 46	8 43½	219 34 33	43 16	30,25	60	55	6	
h —	Noon.	24 36		43 13½					
h —	3 15 56	6 16	220 44 37	43 0	29,35	55½	47	6	A high sea.
h —	Noon.	25 0		42 57½	29,4	62	50½		
h —	4 3 53	15 39½	223 39 55	41 34	29,6	50½	45	6	A rough sea.
h —	Noon.	27 2		41 23	29,8	52	44		
h —	3 33 20½	14 31½	226 4 18	39 58	30,2	51	45	6	
h —	Noon.	28 52		39 42½	30,25	61	50½		
h —	2 48 54½	9 31½	226 35 56	38 4	30,35	56	47½	6	
h —	Noon.	30 53		37 51½	30,2	61	54½		
h —	10 51 59	6 40½	226 37 45	37 41	30,1	57	55	6	
h —	Noon.	32 25		36 30½	30,25	58½	54½	6	
h —	10 49 41	7 40	226 55 10	36 20	30,15	62	55		
h —	2 34 17	9 7½	226 48 45	35 36	29,75	65	64		
h —	Noon.	33 47½		35 19½	29,7	67	64	3	
h —	Noon.	38 26		31 3½	29,85	66	62½	6	
h —	11 20 48	6 11½	225 24 36	30 46	29,9	66	64		
h —	2 23 47	9 48½	225 11 30	29 33	Very hazy.				
h —	Noon.	40 20½		29 21½	☉ N. W. & W. at second Observ. Ship's course N. E. distance run 9 miles.				
h —	7 39 19	38 47	Pocket Watch.	29 46	29,85	70	66	6	
h —	9 32 36	26 19			30,0	70	68		
h —	2 6 50½	7 2½	224 40 8	29 3	29,95	70	67	6	
h —	Noon.	41 26		28 53½					
h —	11 24 54	6 54½	224 58 31	28 34					

1773	Time by No 1		Altitude of the Sun L	Longitude East of Greenwich	Latitude of the Ship South	Barometer	Thermometer		No of Observations	Remarks
	H	M					C	D		
July 6	2	11 1 ¹	9 1 ¹	22 13 15	8 0	29 95	71	68	0	
— 27	Noon		12 57		27 55 ¹	30 0	71	69		
— 8	11 16 54		8 36 ¹	22 5 13 42	27 51	29 9	69	67	6	
— 8	Noon		43 4		27 42 ¹	30 1	70	69		
— 9	Noon		43 31		27 29 ¹	30 0	72	70		
— 30	10 55 47		13 14 ¹	22 4 12 53	27 20	29 95	70	68	4	
— 30	Noon		44 10		27 3 ¹	30 0	72 ¹	71		
— 31	11 11 56		9 59 ¹	22 5 13 15	26 57	30 0	73 ¹	69	6	
— 31	Noon		45 9		26 19 ¹	29 75	70 ¹	67		
Aug 1	11 13 4		9 50 ¹	22 5 46 0	26 10	29 8	71	67 ¹	6	
— 2	1 56 16		10 33 ¹	22 6 48 9	23 28	30 1	69	67	6	
— 2	Noon		48 45		23 14 ¹	30 05	70 ¹	70		
— 3	11 32 2		6 29 ¹	22 6 42 42	23 5	30 0	69	68 ¹	6	
— 3	1 34 12		6 46 ¹	22 7 2 31	22 26	29 9	71	71	6	
— 3	Noon		50 4		22 10 ¹	30 15	72	72		
— 4	2 10 25		15 10 ¹	22 7 17 19	21 34	30 1	72 ¹	71 ¹	6	
— 4	Noon		51 8		21 22 ¹	30 0	74	75		
— 5	1 31 31		8 22 ¹	22 8 21 48	20 48	30 0	74	76	6	
— 5	Noon		52 7		20 39 ¹	30 15	77	77		
— 7	1 24 2		8 10 ¹	22 9 21 0	19 54	30 05	77	76	6	
— 7	Noon		54 28		18 51 ¹	30 1	74	71		
— 8	3 2 32		27 29 ¹	22 6 3 34	18 14	30 1	74	76	6	
— 8	Noon		52 32		18 4 ¹	30 05	75	76		
— 9	2 38 28 ¹		21 3 ¹	22 3 51 22	17 45	30 1	75	75	6	
— 9	Noon		56 12		17 41 ¹	30 25	75 ¹	75		
— 10	2 42 50		20 37 ¹	22 1 47 0	17 25	30 25	76 ¹	75	6	Hazy
— 10	Noon		56 47		17 23 ¹	30 5	77 ¹	77 ¹		
— 11	2 31 27		16 46	21 9 52 0	17 17	30 05	77	77	6	
— 11	Noon		57 12		17 16 ¹	30 1	77	79		
— 12	2 48 9		19 22	21 8 17 8	17 12	30 0	77	77	6	
— 12	Noon		57 37		17 10	30 0	77 ¹	79 ¹		
— 13	2 0 30 ¹		7 51 ¹	21 7 4 10	17 14	30 1	77	78 ¹	3	
— 13	Noon		57 49		17 14 ¹	30 1	78	80		
— 14	2 15 29		10 6 ¹	21 5 31 43	17 17	30 2	79	79	6	
— 14	Noon		58 6		17 17 ¹	30 0	78 ¹	79 ¹		
— 15	12 16 9		9 11 ¹	21 4 44 46	17 20	30 15	78	77 ¹	4	
— 15	2 11 50 ¹		7 50 ¹	21 3 46 50	17 41	30 1	78	78 ¹	6	
— 15	Noon		57 56		17 46 ¹	30 05	78 ¹	80		
— 16	2 32 37 ¹		11 46 ¹	21 2 43 15	17 48				6	
— 16	Noon		58 15		17 46					
— 17	Noon		58 41		17 39 ¹					
— 19	Noon		9 14		17 44 ¹					
— 20	Noon		59 33 ¹		17 44 ¹					
— 21	11 25 43		21 41	21 3 5 12	17 44 ¹				6	Made in Ounipcha Bay on the N W side of the latter peninsula of Ounipcha
— 21	Noon		59 53 ¹		17 45				6	here
— 21	11 47 10		10 50 ¹	21 3 9 46	17 44 ¹				6	

1773.	Time by No. 1.	Altitude of the ☉'s L. L.	Longitude East of Greenwich.	Latitude of the Ship South.	Baro- meter.	Thermoms.		No of Obs.	Remarks.
						C.	D.		
4 Aug. 25.	Noon.	61 36		17 24 $\frac{1}{2}$					
12	4 55	12 47 $\frac{1}{2}$	213 8 6	17 27				6	Point Venus W. 3 or 4 miles
26.	<p>The Watch was carried on shore at Point Venus, and on the 27th compared with the Astronomical Clock, by which the times of equal altitudes had been noted: (See page 52) from whence I have computed that the Watch was too slow for mean time, at Point Venus, on August the 27th, at noon, by 16h. 48' 44".7, and of course it will place Point Venus 39° 17' 35" to the Eastward of Queen Charlotte's Sound, in New Zealand. By allowing its Greenwich rate, I find that it makes Point Venus 253° 30' 36" East of Drake's Island, in Plymouth Sound, that is, 249° 14' 28" East of Greenwich.</p> <p>Mr. Bayley's computations make the Watch to be losing here at the rate of 46$\frac{1}{2}$" a day, and too slow for mean time, on 2 August the 31st, at noon, by 16h. 51' 51", on which suppositions, and that the true Longitude of Point Venus is 210°. 27' 30" East of Greenwich, he has computed the following Longitudes of the Ship.</p>								
2 Sept. 3.	Noon.	65 28 $\frac{1}{2}$		16 45 $\frac{1}{2}$	30,0	77	77		
12	11 12	11 52 $\frac{1}{2}$	208 50 50		30,1	76	76	6	In Owharre Harbour, on the West side of the Island Huaheine.
4.	Noon.	65 50 $\frac{1}{2}$		16 44 $\frac{1}{2}$	30,1	78 $\frac{1}{2}$	78 $\frac{1}{2}$		
12	1 21	14 2 $\frac{1}{2}$	208 51 42		30,0	76	77	6	
5.	12 8 44	12 10 $\frac{1}{2}$	208 51 16		30,0	77 $\frac{1}{2}$	79	4	
6.	12 28 11	7 27 $\frac{1}{2}$	208 51 14		30,0	78	77	6	Of the S. end of Uliatea.
7.	Noon.	66 43		16 59 $\frac{1}{2}$					
12	13 13	11 17 $\frac{1}{2}$	208 8 39	16 58	30,1	77 $\frac{1}{2}$	77	6	In Ohamaneno Harbour, on the West side of Uliatea.
9.	11 51 43	16 3 $\frac{1}{2}$	208 22 9	16 45 $\frac{1}{2}$	30,1	79	78	6	
12.	11 16 55 $\frac{1}{2}$	23 50 $\frac{1}{2}$	208 9 10	16 45 $\frac{1}{2}$	30,2	79	80	6	
16.	4 19 14	46 11 $\frac{1}{2}$	208 17 37 $\frac{1}{2}$	16 47	30,1	77	78 $\frac{1}{2}$	6	
17.	Noon.	70 41		16 50 $\frac{1}{2}$	30,05	78	78 $\frac{1}{2}$		
12	11 37 $\frac{1}{2}$	10 48 $\frac{1}{2}$	207 32 19	16 56				3	
18.	Noon.	70 39		17 15 $\frac{1}{2}$	29,9	77	78 $\frac{1}{2}$		
12	21 53 $\frac{1}{2}$	9 31 $\frac{1}{2}$	206 17 52	17 23	30,1	77	77 $\frac{1}{2}$	3	
2	5 11	13 31 $\frac{1}{2}$	205 53 27	17 36	29,95	77 $\frac{1}{2}$	77 $\frac{1}{2}$	6	
19.	Noon.	70 38 $\frac{1}{2}$		17 39 $\frac{1}{2}$	29,95	78	78 $\frac{1}{2}$		
2	21 51	16 45	204 45 46	17 55	29,95	77	76 $\frac{1}{2}$	6	
20.	Noon.	70 40		18 1 $\frac{1}{2}$	30,0	78	80 $\frac{1}{2}$		
2	23 29	16 42 $\frac{1}{2}$	203 52 46	18 20	29,95	77	78	6	
21.	Noon.	70 42		18 23 $\frac{1}{2}$	29,9	80	80		
12	28 34	10 3 $\frac{1}{2}$	203 32 33	18 27	30,0	77	76 $\frac{1}{2}$	6	
22.	Noon.	70 49		18 39 $\frac{1}{2}$	30,0	78	77		
23.	Noon.	70 46		19 5 $\frac{1}{2}$	30,0	74 $\frac{1}{2}$	74		
2	47 22 $\frac{1}{2}$	19 41 $\frac{1}{2}$	200 0 36	19 22	29,9	75 $\frac{1}{2}$	73 $\frac{1}{2}$	6	
24.	Noon.	70 47		19 28 $\frac{1}{2}$	30,05	76	74 $\frac{1}{2}$		
12	37 25	11 43 $\frac{1}{2}$	199 3 45	19 36	30,0	73 $\frac{1}{2}$	72 $\frac{1}{2}$	6	
25.	Noon.	70 47		19 52 $\frac{1}{2}$	30,05	75	74 $\frac{1}{2}$		
26.	12 42 11	13 56 $\frac{1}{2}$	195 9 10	20 33	29,9	71	71 $\frac{1}{2}$	5	
27.	Noon.	70 47		20 39 $\frac{1}{2}$	29,95	72	72 $\frac{1}{2}$		
28.	Noon.	70 46		21 3 $\frac{1}{2}$	30,00	73	74		
3	53 53	27 43 $\frac{1}{2}$	190 10 29	21 25	30,0	74	72	6	

1773	Time by No 1		Altitude of the ☉ L. L.	Longitude East of Greenwich	Latitude of the Ship South	Baro- meter	Thermom.		No. of Obf.	Remarks
	H	M					C	D		
Sept -9	Noon		70 45		21 28 $\frac{1}{2}$	30,1	73	72		
	13 7 18 $\frac{1}{2}$		13 3 $\frac{1}{2}$	189 13 36	21 27	30,15	72	70	6	
30	Noon		71 25		21 11 $\frac{1}{2}$	30,0	71	70		
Oct 1	Noon		71 40		21 20 $\frac{1}{2}$	30,0	70	72		
	12 41 59		22 14 $\frac{1}{2}$	185 33 40	21 19	30,0	70	69	6	
2	Noon		72 20 $\frac{1}{2}$		21 21 $\frac{1}{2}$	30,05	71 $\frac{1}{2}$	71 $\frac{1}{2}$		At anchor under the N W side of 1 mow, or Middleburgh
	13 24 9		12 49 $\frac{1}{2}$	185 6 32	21 21 $\frac{1}{2}$	30,05	70	68 $\frac{1}{2}$	6	
4	Noon		73 6		21 4	30,05	72 $\frac{1}{2}$	72 $\frac{1}{2}$	2	At anchor off the North Point of Longa Lubu, or Amsterdam
5	13 2 16 $\frac{1}{2}$		17 55	184 41 34		30,05	73	70	3	
6	Noon		73 51 $\frac{1}{2}$		21 5	29,95	74	73	2	
	6 56 45		66 6 $\frac{1}{2}$	184 44 9		30,1	72 $\frac{1}{2}$	71 $\frac{1}{2}$	10	
7	Noon		74 16		21 4 $\frac{1}{2}$	30,0	73 $\frac{1}{2}$	71 $\frac{1}{2}$		
	13 20 28 $\frac{1}{2}$		13 26 $\frac{1}{2}$	184 44 45	21 9	30,0	71 $\frac{1}{2}$	71	6	
8	Noon		72 41		22 1 $\frac{1}{2}$	29,95	75	71 $\frac{1}{2}$		
	4 14 46		31 26	184 49 0	22 21	30,05	73	70	6	
9	Noon		73 40		22 25 $\frac{1}{2}$	30,0	73	71		
	3 9 16 $\frac{1}{2}$		16 6	183 59 10	22 37	30,0	72	69 $\frac{1}{2}$	10	
	5 22 46 $\frac{1}{2}$		46 29 $\frac{1}{2}$	184 2 21	22 40	30,05	73	70	6	
10	Noon		73 43		22 45 $\frac{1}{2}$	30,05	71	69		
	5 19 34		44 40 $\frac{1}{2}$	182 40 10	23 47	30,05	70	67	3	
11	Noon		72 57		23 53 $\frac{1}{2}$	30,0	70	68		
	3 52 11		24 21 $\frac{1}{2}$	182 41 0	25 7	30,05	70	67 $\frac{1}{2}$	3	
12	Noon		71 43		25 30 $\frac{1}{2}$	30,1	71	68		
	3 56 53 $\frac{1}{2}$		24 53 $\frac{1}{2}$	180 48 52	26 53 $\frac{1}{2}$	30,2	70 $\frac{1}{2}$	68	6	Flying Clouds
13	Noon		70 25		27 11 $\frac{1}{2}$	30,2	70	68		
	3 26 51		17 58 $\frac{1}{2}$	180 7 41	28 24	30,1	70	66	3	
14	2 53 27		10 47 $\frac{1}{2}$	179 31 54	29 48	30,15	70	65 $\frac{1}{2}$	6	
15	Noon		68 6		30 15 $\frac{1}{2}$	30,2	69 $\frac{1}{2}$	67 $\frac{1}{2}$		
16	Noon		67 5		31 38 $\frac{1}{2}$	30,2	68	66 $\frac{1}{2}$		
	5 17 34		41 34 $\frac{1}{2}$	179 36 33	32 39	30,15	68 $\frac{1}{2}$	67	6	
17	Noon		66 22 $\frac{1}{2}$		32 43 $\frac{1}{2}$	30,2	69	67 $\frac{1}{2}$		
18	14 3 12 $\frac{1}{2}$		8 39 $\frac{1}{2}$	179 18 0	32 50	30,15	68	65 $\frac{1}{2}$	3	
19	Noon		65 40		33 47 $\frac{1}{2}$	30,0	68	67		
	3 39 50		22 16 $\frac{1}{2}$	179 33 48	35 54 $\frac{1}{2}$	29,85	69	65 $\frac{1}{2}$		
20	Noon		62 26 $\frac{1}{2}$		37 24	29,65	65 $\frac{1}{2}$	57	6	
	13 5 42		20 41 $\frac{1}{2}$	179 12 24	37 44 $\frac{1}{2}$	29,65	65 $\frac{1}{2}$	60		
	3 44 44		22 45 $\frac{1}{2}$	178 37 51	38 6	29,65	65	59	6	
21	Noon		61 26		38 58	29,6	66	57 $\frac{1}{2}$	6	
	10 56 27 $\frac{1}{2}$		45 30 $\frac{1}{2}$	178 0 32	39 6 $\frac{1}{2}$	29,25	64	64		New Zealand from W S W $\frac{1}{2}$ S to N W by N
	13 41 34 $\frac{1}{2}$		14 57 $\frac{1}{2}$	177 38 42	39 10	29,45	65	60	6	
	2 49 4 $\frac{1}{2}$		10 54 $\frac{1}{2}$	176 37 0	39 17	29,4 $\frac{1}{2}$	64 $\frac{1}{2}$	59	3	Table Cape due North
22	Noon		60 39		39 53	29,55	62	56	6	
					40 15 $\frac{1}{2}$	29,2	63	59		Black Head N W and Cape Turnagain S 33 W

1773	Time by No 1		Altitude of the Sun L. L.	Longitude East of Greenwich	Latitude of the Ship South	Barometer	Thermom.		No of	Remarks
	H	"	°	"	°		C	D		
2 Oct. 22	11	33 49 ^T	39 38	176 30 10	40 30	29,2	65	57	3	{ Between Cape Turnagain and the Black Head.
	12	43 2 ¹	26 58 ¹	176 28 21	40 30	29,6	62	58	6	
5 — 23	Noon		60 22		40 53 ^T	29,55	64	56		{ Cape Turnagain N N W ' W and Black Point S W $\frac{1}{2}$ W
	10	53 19 ¹	46 36	176 9 37	40 51	29,65	64	55 ^T	6	
	13	18 26 ¹	20 54 ¹	176 15 43	40 53 ¹	29,5	63 ^T	55	6	
0 — 24	11	12 5	43 38 ¹	175 42 51	41 30	29,4	64	60	6	{ Cape Palliser W S W \pm W dist 8 or 9 leagues
	13	4 43 ^T	23 34	175 37 56	41 32	29,5	62	58	6	
3 — 25	Noon		59 39		42 18					{ A little hazy
	4	11 1	16 30 ^T	175 2 23	42 55	29,65	62	55	6	
8 — 26	Noon		59 45		42 32 ¹	29,6	60	54 ¹		{ Hazy
8 — 27	Noon		60 21		42 17 ^T	29,65	61	56		
	4	39 39	32 27 ¹	174 52 22 ¹	42 19	29,5	61	53	6	
11 — 28	Noon		60 40		42 18 ¹	29,25	62	56		{ A little hazy
	3	26 51 ¹	19 41 ^T	175 9 39	42 00	29,6	60	54	6	
2 — 29	Noon		61 28		41 50 ¹					{ A little hazy
	14	30 22 ^T	8 37 ¹	174 48 10	41 48 ¹	29,6	59	54 ¹	3	
5 — 30	Noon		61 44		41 53 ^T	29,55	59	60		{
0 — 31	Noon		61 26		42 31 ^T	29,7	64	64 ¹		
	14	18 47	10 50 ¹	174 57 32	42 32	29,35	57	55	6	
3 Nov 1	3	24 3 ¹	20 30	175 1 57	41 23	29,5	60	58	6	
8 — 2	Noon		62 59		41 37 ^T	29,65	61	57		{
2 — 3	Noon		63 35		41 20 ¹	29,75	60	53		
	13	27 26 ¹	20 22 ^T	174 56 46	41 18	29,65	59	54	6	
11 — 4	14	21 40 ¹	11 6 ^T	173 59 46	41 38	29,6	59	59	6	
5 — 6	Noon		64 13		41 37 ¹	29,6	54	52		{
0 — 7	Noon		66 27		39 41 ¹	29,75	57	53		
3 — 8	Noon		67 24		39 1 ^T	29,75	62	63		{ Tble Cape S W b W and Gable End Foreland N W b N
8 — 9	2	35 54	14 59 ¹	176 53 27		29,95	61	57 ¹	6	
8 — 10	Noon		68 38 ¹		38 21 ¹	29,95	61 ¹	57	2	{ In Tolaga Bay
	2	8 2	10 1 ^T	176 55 24		29,9	60 ¹	56	12	
11 — 11	Noon		68 56 ¹		38 20	29,8	61	57		{ Off the mouth of Tolaga Bay
3 — 15	2	19 1 ¹	13 26 ^T	176 56 8		29,8	62	54	6	
8 — 16	Noon		70 04		38 31 ¹	29,95	61	64		{ In Tolaga Bay
	3	24 53 ¹	26 10 ¹	176 29 1 ¹	39 34	29,8	67	62 ^T	6	
8 — 17	Noon		69 8		39 42 ¹	29,65	68	67		{
	2	53 13 ¹	20 9 ¹	176 8 57	39 52	29,8	69	63	6	
11 — 18	Noon		69 6		39 59	29,65	68	68		{
	12	14 41	33 54 ^T	176 8 17	40 2	29,65	68	69	6	
8 — 19	Noon		68 40		40 39 ¹	29,55	69	68		{ Very hazy
5 — 20	Noon		68 30		41 2 ^T	29,8	65	56		

1773	Time by No 1	Altitude of th \odot s I L	Longitude East of Greenwich	Latitude of the Ship South	Baro- meter	h	man.	h	man.	Remarks
						C	D			
h 1 v O	13 5, 40	15 56 $\frac{1}{2}$	174 58 30	41 00	29,8	66	55	6		
O — 21	Noon	68 41		41 5 $\frac{1}{2}$	9,75	67	55			
b — 22	3 56 27 $\frac{1}{2}$	32 56 $\frac{1}{2}$	175 52 30	41 7	29,75	66	54	4		
	Noon	68 55		41 4 $\frac{1}{2}$	30,1	62	55			
	12 49 15	28 3 $\frac{1}{2}$	175 22 42	40 58	30,1	64	56	6		Cape Turnagain W N W dist int 7 or 8 leagues
s — 23	14 14 9	12 27 $\frac{1}{2}$	175 13 3	40 57	30,1	64	56	6		
	Noon	69 18		40 54 $\frac{1}{2}$	30,2	62	61 $\frac{1}{2}$			
	11 39 10 $\frac{1}{2}$	41 29 $\frac{1}{2}$	175 5 15	40 57	30,25	62	61 $\frac{1}{2}$	6		Cape Turnagain N N W dist int 5 or 6 leagues
g — 24	Noon	68 48		41 36 $\frac{1}{2}$	30,3	63	61 $\frac{1}{2}$			
u — 25	3 2 56	21 52 $\frac{1}{2}$	173 17 19	42 00	30,1	64	56	6		
q — 26	3 15 13	29 40 $\frac{1}{2}$	173 00 30	42 01	29,95	63	56	6		
h — 27	Noon	69 1		41 57 $\frac{1}{2}$	29,9	64	61			
O — 6	5 11 33	46 17 $\frac{1}{2}$	173 27 36	42 4	29,85	65 $\frac{1}{2}$	57 $\frac{1}{2}$	3		
b — 29	Noon	69 13		42 6 $\frac{1}{2}$	29,85	66 $\frac{1}{2}$	60			Hazy
o Dec 7	5 20 43	17 59 $\frac{1}{2}$	172 53 6	41 12	30,2	63	54	6		
Mr Bayley compared the watch with the clock, by which the times of equal altitudes had been noted (see p 69) from whence it appears that the watch was 15 h 36 19,5 too slow for mean time on that day at noon and therefore, according to its rate and state with respect to mean time at Point Venus in October, on August the 31st, the difference of longitude between that place and this will appear to be 37° 48' 43" that is, it makes this place 172 38 16 E of Greenwich. If we reckon all the way from England, at the rate it was going, when at Greenwich, it will place Queen Charlotte's Sound 235° 44' E of Dral's Island in Plymouth Sound, or 231° 28' E of Greenwich.										
But farther Mr Bayley found this watch too slow for mean time at this place, June the 7th at noon by 13 h 36 58",5, and that it was then losing, on mean time at the rate of 25,66 a day according to which, it should have been too slow for mean time on Dec 7th, by only 14 h 55 14,3, instead of 15 h 36 19,5; the difference 41 5", = 10° 16' 18" in longitude, is what the watch has erred in half a year.										
The watch was found now to be losing 44,924 a day on mean time, and that it was too slow on 2 December 15th at noon by 15 h 42 17",46. Moreover, in computing the following longitudes of the ship Mr Bayley has supposed that the longitude of Queen Charlotte's Sound was 174 1 55" E. of Greenwich.										
g — 2	14 16 47	13 50 $\frac{1}{2}$	174 29 45	41 20	29,8	67	65	6		
u — 23	3 0 28	24 45 $\frac{1}{2}$	174 57 24	42 9	29,9	65	64	6		
	Noon	70 50		42 25 $\frac{1}{2}$	30,1	66	66	6		
q — 24	12 43 30 $\frac{1}{2}$	30 22 $\frac{1}{2}$	175 19 51	42 29	30,0	66	65 $\frac{1}{2}$	6		
	Noon	70 14		43 00 $\frac{1}{2}$	30,0	69	64 $\frac{1}{2}$			
h — 25	14 41 28	9 49 $\frac{1}{2}$	175 10 12	43 24	30,15	66	62	6		
	Noon	68 32		44 38 $\frac{1}{2}$	30,2	66 $\frac{1}{2}$	62			
O — 6	3 27 11 $\frac{1}{2}$	31 16 $\frac{1}{2}$	176 44 35	45 40	30,1	66	57	6		Hazy
	Noon	67 28		45 43	29,8	66	57			
	13 15	18 36 $\frac{1}{2}$	177 10 36	45 47	30,0	65	61 $\frac{1}{2}$	6		

1773.	Time by No. 1.	Altitude of the \odot 's L. L.	Longitude East of Greenwich.	Latitude of the Ship South.	Barometer.	Thermom.		No. of Obs.	Remarks.
	H	"	"	"	"	C.	D.		
δ Dec. 28.	Noon.	65 57:		47 8 $\frac{1}{2}$	30,05	64	54		Very hazy.
	4 24 52	42 8 $\frac{1}{2}$	178 44 12	47 50	29,95	62	51 $\frac{1}{2}$	6	
μ — 29.	Noon.	64 55		48 7 $\frac{1}{2}$	29,9	63	54		
	3 33 3	34 28 $\frac{1}{2}$	180 31 10 $\frac{1}{2}$	50 52	29,6	56	45	6	
1774.									
δ Jan. 1.	Noon.	61 53		50 56 $\frac{1}{2}$	29,75	55	46		
	14 26 12 $\frac{1}{2}$	10 33 $\frac{1}{2}$	181 39 49	51 7	29,75	50	41	6	
	4 11 55 $\frac{1}{2}$	41 54 $\frac{1}{2}$	182 51 52	51 28	29,85	52	41	6	
\odot — 2.	Noon.	61 8		51 36 $\frac{1}{2}$	30,05	57	48		
δ — 4.	1 48 12	25 32 $\frac{1}{2}$	191 55 51	55 15	29,65	50	49	6	
μ — 5.	Noon.	56 58		55 28 $\frac{1}{2}$	29,4	62	46		
μ — 7.	1 52 50	31 46 $\frac{1}{2}$	202 26 36	57 8	29,8	55	38	6	
δ — 8.	Noon.	54 59		57 5 $\frac{1}{2}$	29,7	60	40		
	2 5 1 $\frac{1}{2}$	33 26 $\frac{1}{2}$	202 35 21	57 8 $\frac{1}{2}$	29,75	54	36	6	
\odot — 9.	Noon.	54 28		57 28 $\frac{1}{2}$	29,65	55	38		
δ — 10.	0 39 1	26 55 $\frac{1}{2}$	212 19 28	58 14	28,8	50	35	6	
δ — 11.	Noon.	53 21		58 18	28,65	55	36		
μ — 12.	12 20 0 $\frac{1}{2}$	10 23	216 29 30	58 45	28,45	56	36 $\frac{1}{2}$	3	
μ — 13.	Noon.	52 35		58 45 $\frac{1}{2}$	28,55	60	41		
μ — 14.	0 22 17 $\frac{1}{2}$	29 31 $\frac{1}{2}$	222 19 45	58 48	29,1	51	39 $\frac{1}{2}$	6	
δ — 15.	Noon.	52 10		58 48 $\frac{1}{2}$	29,0	58	38 $\frac{1}{2}$		
\odot — 16.	Noon.	51 57 $\frac{1}{2}$		58 50 $\frac{1}{2}$	29,5	57	40		
	0 11 16	32 28 $\frac{1}{2}$	231 27 32	59 3	29,65	50	39	6	
δ — 17.	10 22 31	47 0	Pocket	59 11	\odot N. E. $\frac{1}{2}$ N. at the first Observ. Ship's course E. $\frac{1}{2}$ N. distance run 15 miles.				
δ — 18.	12 22 38	51 4	Watch.						
	0 2 59	35 40 $\frac{1}{2}$	240 23 49	59 23	28,6	51	42	6	
μ — 19.	Noon.	50 47		59 24 $\frac{1}{2}$	28,75	54	41		
	6 14 29	41 1 $\frac{1}{2}$	242 4 51	59 26	28,7	59	40	6	
	6 27 37	39 34 $\frac{1}{2}$	242 12 1 $\frac{1}{2}$	59 26		59	40	3	
	7 29 59	32 10 $\frac{1}{2}$	242 26 14	59 28	28,4	59	39 $\frac{1}{2}$	6	
μ — 20.	Noon.	50 7		59 52 $\frac{1}{2}$	28,45	58 $\frac{1}{2}$	41 $\frac{1}{2}$		
μ — 21.	Noon.	49 37		60 9 $\frac{1}{2}$	28,35	59	41 $\frac{1}{2}$		
	9 1 56 $\frac{1}{2}$	17 25 $\frac{1}{2}$	248 2 38	60 9 $\frac{1}{2}$	28,55	58	40	3	
δ — 22.	Noon.	50 2		59 31 $\frac{1}{2}$	28,75	56	42		
	8 55 11	16 39 $\frac{1}{2}$	250 28 34	59 23	28,5	59	40	6	
	22 29 26 $\frac{1}{2}$	29 22	251 54 23	59 17	28,55	52	40	3	
\odot — 23.	Noon.	50 4		59 15 $\frac{1}{2}$	28,5	57	42		
μ — 24.	Noon.	49 32		59 33 $\frac{1}{2}$	28,85	60	38 $\frac{1}{2}$		
	9 3 2	11 49	257 29 12	59 37	29,0	57	42	4	
μ — 28.	Noon.	46 20		61 46					
	6 39 38	20 5 $\frac{1}{2}$	274 27 34	61 47	29,25	63	41	6	
	21 9 9 $\frac{1}{2}$	30 18 $\frac{1}{2}$	277 28 6	61 45					
	22 45 26	39 56	Pocket						
δ — 29.	0 34 11	45 46	Watch.	61 50	\odot N. by E. at the first Observation. Ship's course N. E. by E. distance run 10 miles.				
	20 25 23	27 42 $\frac{1}{2}$	282 49 57	61 37	29,4	54	41 $\frac{1}{2}$	6	
\odot — 30.	Noon.	46 0		61 34 $\frac{1}{2}$	29,35	61	42 $\frac{1}{2}$		

1774	Time, No	Altitude of the ☉	Longitude East of Greenwich	Latitude of the Ship	Barometer	Thermom	Remarks
	H	L L				C D	
Feb 1	8 25 1 ^r	53 54 ¹ / ₂	297 40 29	60 48	9	51 41	6
2	Noon	46 0		60 44 ¹ / ₂			
	17 46 9	16 55 ^r	301 34 27	60 39	29,5	54 41	6
	19 34 28 ^r	30 18 ^r	302 23 12	60 38	29,5	55 41 ¹ / ₂	6
	21 07 7	39 47	Pocket				
3	22 35 51	45 11	Watch	60 36	O N L	at the first Observation	Ship
6	16 33 24	13 37 ¹ / ₂	314 41 37	59 30	course N 1 by	L dist run 12 miles	
7	Noon	45 59		59 16 ^r	29,2	52 35 ¹ / ₂	5
	19 22 58	35 28 ^r	316 56 41	58 38	29,2	57 ¹ / ₂ 41	
	19 23 30	35 33 ^r			29,8	54 35	4
8	22 26 30	46 25 ^r		58 30	O N N L	at first Observation	Ship
9	Noon	47 17			course N 1	N dist run 1 ¹ / ₂ mile	
16	1 16 49	24 17 ¹ / ₂	336 35 34	57 20 ¹ / ₂	29,85	57 ¹ / ₂ 37	
18	19 53 10	46 30 ^r		53 55	29,4	61 39	6
19	20 53 10	47 2 ^r		54 0	O N L	at the first Observation	Ship
	19 47 37	47 1 ^r			course N 1	by N dist run 2 ¹ / ₂ miles	
20	20 37 27	47 30 ^r		53 20	29,7	56 37	
	0 4 51	28 35 ¹ / ₂	344 26 0	53 21	29,75	57 38	6
21	7 33 47	36 52	346 30 55	53 24	29,0	52 39	6
	Noon	47 10		53 23 ¹ / ₂	29,1	55 39 ¹ / ₂	
	1 9 26	16 52 ^r	347 47 51	53 24	29,4	56 30 ¹ / ₂	3
22	14 48 59 ^r	15 27 ¹ / ₂	349 6 44	53 14	30,05	53 37	6
	Noon	47 01		53 11 ^r	29,95	57 40	
24	1 22 9 ¹ / ₂	13 18 ¹ / ₂	349 57 6	53 14	30,0	52 39	3
	Noon	46 42		52 46 ¹ / ₂			
	0 40 51	14 43 ^r	356 30 46	52 51	29,25	56 39 ¹ / ₂	6
	4 33 59	34 30	Pocket				
	6 20 35	44 15	Watch	53 15	O N L	at the first Observation	
2	4 49 26	16 13 ^r	359 53 27	53 25	Ship's course	L by S 10 miles	
26	14 9 16	17 11 ¹ / ₂	3 21 33	53 24	29,0	38 31	3
					29,4	49 ¹ / ₂ 37	6
Here Mr Bayley having completed 360° of longitude, or one revolution round the globe from the meridian of Greenwich eastward, to the meridian of Greenwich again rejected 360° and repeated February 26, in order to bring his day to correspond with that at Greenwich							
26	Noon	45 56		53 27	29,6	55 37	
	23 48 12	16 10 ^r	4 55 48	53 33	29,55	9 37	6
27	Noon	44 7		53 53 ^r	29,5	57 40	
March 1	23 53 26	11 8 ¹ / ₂	9 56 40	53 48	28,85	57 34	6
	15 18 27	29 55 ^r	11 9 3	54 5	29,2	52 35	6
	15 48 26	33 26 ^r					
	17 52 40	42 25 ^r		54 4 ^r	O N 1	by L at the first Observation	Ship
2	14 20 38 ¹ / ₂	25 30	13 13 15	53 38	course E S E	L dist run 7 miles	
3	Noon	43 12		53 17 ¹ / ₂	29,2	34 34	6
	23 49 54 ^r	8 41 ¹ / ₂	13 30 22	52 56	29,65	56 34	6
5	21 46 1	14 58		50 45 ¹ / ₂	29,9	57 38	
	21 46 1	25 56 ^r	15 3 45	50 38	29,2	50 43	3

1774.	Time by No. 1.	Altitude of the Sun's L. L.	Longitude East of Greenwich.	Latitude of the Ship South.	Thermom.		No. of Obs.	Remarks.
	H	° ' "	° ' "	° ' "	Barometer.	C. D.		
March 7.	Noon.	46 25		48 32 $\frac{1}{2}$	29,85	57 41		
	18 47 18	45 6 $\frac{1}{2}$		48 15	29,8		6	
	22 51 36	14 35 $\frac{1}{2}$	16 42 3	48 15	29,95	57 39	6	
	12 55 47 $\frac{1}{2}$	13 24	16 39 57	47 53	30,0	38 38	8	
8 — 8.	Noon.	46 57		47 36 $\frac{1}{2}$	29,75	59 40		
11 — 10.	Noon.	50 33		43 13 $\frac{1}{2}$	29,85	59 47 $\frac{1}{2}$		
	22 39 3 $\frac{1}{2}$	15 39 $\frac{1}{2}$	17 21 31	42 49	29,7	60 49	6	
2 — 11.	Noon.	51 35		41 48 $\frac{1}{2}$	30,05	61 55		
	14 5 41	27 17 $\frac{1}{2}$	17 43 37	41 24	29,8	57 $\frac{1}{2}$ 61 $\frac{1}{2}$	6	
5 — 12.	12 25 14	9 13 $\frac{1}{2}$	17 38 31	40 23	29,6	62 64	6	
10 — 13.	Noon.	52 36		39 59	29,6	65 60		
	22 19 47	17 38 $\frac{1}{2}$	18 27 0	39 37	29,55	63 61	3	
	12 53 4 $\frac{1}{2}$	15 33 $\frac{1}{2}$	19 0 12	38 0	29,75	64 64 $\frac{1}{2}$	6	
3 — 14.	Noon.	54 40		37 32 $\frac{1}{2}$	29,7	65 65 $\frac{1}{2}$		
	22 34 59 $\frac{1}{2}$	14 21 $\frac{1}{2}$	18 53 0	37 3	30,0	67 62	3	
8 — 15.	Noon.	56 17		35 31 $\frac{1}{2}$	30,2	67 69		
	22 34 44 $\frac{1}{2}$	14 3 $\frac{1}{2}$	19 4 48	35 18	30,25	66 68	3	
11 — 16.	Noon.	56 47 $\frac{1}{2}$		34 37 $\frac{1}{2}$	30,05	70 69 $\frac{1}{2}$		
	20 37 3	16 29 $\frac{1}{2}$	19 21 25	34 35	30,1	69 68 $\frac{1}{2}$	6	
	12 45 33 $\frac{1}{2}$	15 21 $\frac{1}{2}$	20 0 13	34 21	30,15	68 68 $\frac{1}{2}$	6	
14 — 17.	Noon.	56 48 $\frac{1}{2}$		34 12 $\frac{1}{2}$	30,0	70 69 $\frac{1}{2}$		
	22 11 10	16 54 $\frac{1}{2}$	20 35 16 $\frac{1}{2}$	34 10	30,0	70 70	6	In sight of the Table Hill.
7 — 18.	21 52 56 $\frac{1}{2}$	20 0	20 51 25 $\frac{1}{2}$		30,0	69 $\frac{1}{2}$	6	Off the entrance into Table Bay, at the Cape of Good Hope.
12 — 23.								

Mr. Bayley compared the watch with his clock, by which the times of equal altitudes of the sun had been noted, (see p. 77). From whence it appears that the watch was 6 h. 45' 23" too slow for mean time at the Cape, on that day at noon, and by comparing this with the time shewn by it at Queen Charlotte's Sound, in December last, and allowing the rate it was then going at, I find that it makes the difference of longitude between this place and that 207° 20' 53", that is, it makes the Cape Town 21° 22' 48" east of Greenwich, or 2° 59' 33" greater than the truth. Computing all the way from England, at the rate it was going when at Greenwich, it puts the Cape Town 103° 21' 54" to the eastward of Drake's Island in Plymouth Sound, or 99° 5' 46" east of Greenwich, that is, 80° 42' 31" more than it ought to be.

But farther: Mr. Bayley computed that this Watch was 1 h. 55' 12", 6 too slow for mean time, at this place, on ○ November 22, 1772, and it was then losing at the rate of 20", 2727, &c. a day; consequently, it should have been too slow on March 23, 1774, by 4 h. 5' 37" 87 only, instead of 6 h. 45' 23": the difference, 2 h. 39' 45" 13 = 39° 56' 17" in Longitude, is what the Watch has erred from itself in 16 months.

Lastly, Mr. Bayley found that it was now losing 1' 3", 668 a day on mean time, and that it was too slow on ○, April the 10th, at noon, by 7 h. 4' 29" 91 on which suppositions, and that the Longitude of the Cape Town is 18° 23' East, the following Longitudes of the ship are computed.

1774	Time by No 1	Altitude of the Sun	Longitude East of Greenwich	Latitude of the Ship South	Barometer	Thermometers		No of Obs.	Remark
	H	° ' "	"	"		C	D		
h April 16	20 44 12	18 42 ^p	18 22 28	33 49	30 05	72	—	6	Capc Town S S I
	12 37 14	15 21 ^r	17 35 44	33 18	30,1	68	64	5	
o — 17	Noon	46 1 ^r		33 12 ¹	30,1	65	65		
p — 18	12 42 59	15 41 ^r	16 21 48	32 58	29,87	64 ¹	64	5	
d — 19	Noon	45 28		33 4 ¹	29,9	70	66		
h — 20	12 10 53	9 35 ¹	16 15 9	32 38	30 15	70	64	6	
	Noon	45 38		32 33 ²	30 1	69	71		
	20 27 25	22 16 ¹	16 2 15	32 28	30 0		64	6	
	13 5 47	19 28 ¹	14 42 0	31 26 ¹	30,05	70	63 ¹	6	
h — 21	Noon	16 38		31 13 ¹	29,85	70	63 ¹		
	12 21 54	10 9 ¹	13 3 58	30 23	29,9	68	63	6	
p — 22	Noon	47 15		30 16 ^r	29,85	68 ¹	66 ¹		
	21 57 30	7 16 ¹	13 3 48	30 08	29,95	67	64	6	
	12 6 28	7 25 ¹	13 8 15	29 27	30,05	69	5	6	
h — 23	Noon	47 55		29 14 ^r	30,1	70	66		
o — 24	Noon	49 6 ^r		27 44 ¹	0 0	68	66		
	13 36 10	23 54 ^r	9 31 18	26 23	30,0	67	64 ¹	6	
p — 25	Noon	50 18		26 10 ^r	29 9	70 ¹	67		
d — 26	12 31 18	10 6 ^r	8 14 22	25 6	30,15	67	66	6	
h — 27	Noon	51 14		24 57 ^r	30 0	0	69 ¹		
	12 20 41	7 16 ¹	6 44 0	24 2	30,05	71	66 ¹	6	
	Noon	52 4 ^r		23 47 ¹	29 9	69	70		
h — 28	13 28 1 ^r	20 56 ^r	5 51 22	22 5 ¹	29,85	70	66	6	
p — 29	Noon	52 44 ^r		22 49	29,9	69	69 ¹		
	Noon	53 21		21 53	29,95	71 ¹	75		
	22 20 29	9 51	4 9 5	21 45	29,95	70	68	6	
	12 29 52	7 50 ¹	3 43 1	21 28	30,0	71	69	6	
h — 30	Noon	53 35		21 21 ^r	30,0	72	77 ¹		
o May 1	13 6 11	15 22 ^r	3 0 2	20 56	30,0	—	69 ¹	6	
	Noon	53 46 ^r		20 51 ^r	30,1	73	76		
p — 2	14 22 08	30 53 ^r	2 23 36	20 30	30,0	73	70 ¹	6	
	Noon	53 58		20 22 ¹	29,95	73 ¹	70 ¹		
d — 3	12 31 30	7 38	2 1 22	19 39	30 0	73 ¹	69 ¹	6	
h — 4	Noon	54 30		19 32 ^r	30,0	74	74 ^r		
	13 3 51	14 40 ¹	1 45 24	19 29	30 0	72	71 ^r	6	
	Noon	54 18		19 27 ^r	30,0	74	76		
h — 5	14 15 43	29 22 ¹	1 2 53	18 57	30,0	72	71 ^r	6	
	Noon	54 40 ¹		18 47 ^r	30,05	72	73 ^r		
	22 42 32	6 42 ¹	0 41 48	18 37	30,0	73	70	3	
			West						
	12 54 58	11 53	0 18 33	17 57	29,9	73	70 ^r	6	
p — 6	Noon	55 30		17 40 ^r	30,0	73	73 ^r		
h — 7	Noon	56 5		16 49 ^r	29,95	73	75		
o — 8	Noon	56 49 ^r		15 48 ^r	30,0	72	74 ¹		
	21 44 44	22 41 ¹	2 58 3	15 41	30,05	72	69	6	
p — 9	22 11 15	18 12 ¹	4 18 18	14 36	30,15	73	70	6	

1774.	Time by No. 1.	Altitude of the ☉'s L. L.	Longitude West of Greenwich.	Latitude of the Ship South.	Baro- meter.	Thermom.		No. of Obs.	Remarks.
	H	° ' "	° ' "	° ' "		C.	D.		
♂ May 10.	Noon.	58 42½		13 23½	30,15	76	75		
	22 3 15	21 42½	5 58 34	13 8	30,15	76	71	2	
♂ — 11.	Noon.	59 48		12 2½	30,15	76	75		
	22 27 32	17 56½	7 33 50	11 49	29,8	76	72	6	
	12 51 44	7 25½	8 18 45	9 32	30,0	76	75	3	
♂ — 12.	Noon.	60 52		10 43½	29,95	77	77		
	13 54 55	21 8½	9 48 10	9 32	30,0	77	76	6	
♀ — 13.	Noon.	62 5		9 14½	29,95	78	80		
	22 58 16½	14 0½	10 24 27	8 58	30,0	77	73	6	
	13 11 13	10 25	11 23 43	8 14	29,95	78	75	6	
♂ — 14.	Noon.	63 9		7 55½	30,0	79½	80½		
	13 30 23	14 10½	12 51 7	6 51	29,8	78½	77½	6	
⊙ — 15.	Noon.	64 14½		6 33½	29,85	80	81½		
	23 19 35½	12 18½	13 27 32	6 16	29,9	81	81	6	
	13 14 31½	9 51½	14 23 32	5 30	29,85	79	78½	6	
♂ — 16.	Noon.	65 23		5 14½	29,9	82	82½		
	23 20 37½	13 34½	14 53 13	4 58	29,95	81	82	6	
	13 26 45	11 59½	15 44 39	4 15	30,0	80½	79½	6	
♂ — 17.	Noon.	66 24		3 59½	29,9	79	78½		
	23 15 24	16 18½	16 20 34	3 41	29,9	81	80½	6	
	13 28 32	11 39½	17 18 48	2 52	29,95	79	78½	6	
♂ — 18.	Noon.	67 35		2 35½	30,0	79½	81½		
	23 27 20	15 12½	17 54 2	2 20	30,0	81½	80½	6	
	13 11 39	7 18½	18 33 42	1 20	30,0	78½	77	3	
♂ — 19.	Noon.	68 59		0 58½	30,0	79	80		
	23 20 11½	17 58½	18 45 55	0 43	30,0	80	80½	6	
				North.					
♀ — 20.	Noon.	70 6		0 21½					
	21 10 19	21 1½	19 20 53	0 34	29,9		80	6	
	23 47 58	12 17½	19 23 0	0 35	29,9	79½	80½	3	
♂ — 21.	Noon.	70 57		1 24½	29,95	79½	80		
	0 14 19½	7 17½	20 27 34	1 38	29,9	80	79½	3	
	14 36 11	26 36½	21 10 34	2 37	29,9	79	80	6	
⊙ — 22.	Noon.	72 15		2 54½	29,95	82½	82½		
	14 23 46	23 48½	21 48 25	3 55	30,0	80½	79	3	
♂ — 23.	Noon.	73 14		4 5½	30,0	82	83		Very hazy.
	15 38 18	41 17½	21 55 30	4 27	29,95			6	
♂ — 24.	Noon.	73 34½		4 36½	29,95	80	79		
	13 28 1½	11 43½	21 50 2	5 19½	29,95	80	78	6	
♀ — 25.	Noon.	74 14		5 27½	30,1	83	82		
	13 29 40½	14 3½	21 48 18	5 51	30,05	82	81	3	
♂ — 26.	Noon.	74 32		5 55½					
	13 35 52½	14 4½	21 56 8	6 0	29,9	81	77	6	
♀ — 27.	Noon.	74 25½		5 59½	30,0	82½	81½		
♂ — 28.	Noon.	74 38½		6 21½	29,9	81	77		Hazy.
	23 7 44½	24 32½	22 19 3	6 26	29,95	81½	80	6	

ASTRONOMICAL OBSERVATIONS

1774.	Time by No. 1	Altitude of the ☉ = L. L.	Longitude West of Greenwich	Latitude of the Ship North	Baro- meter	Thermom.		No of Obs.	Remarks
	H					C	D		
O May 29.	Noon	74 45		6 37 $\frac{1}{2}$	29,95	80			
D — 30	16 20 55	53 23 $\frac{1}{2}$	21 24 15	6 36	29 95	78	79		
d — 31	Noon	74 26 $\frac{1}{2}$		6 36 $\frac{1}{2}$	30,05	80	79 $\frac{1}{2}$	3	
	23 12 50	21 59 $\frac{1}{2}$	21 24 54	6 38	30,0	79	76	6	
H June 1	11 6 28 $\frac{1}{2}$	43 7 $\frac{1}{2}$	21 21 6	6 46	30,05	79	79 $\frac{1}{2}$	6	
	Noon	74 29 $\frac{1}{2}$		6 47 $\frac{1}{2}$	30,0	81 $\frac{1}{2}$	81	6	
K — 2	13 31 7	15 30	21 0 15	7 5	30,0		79 $\frac{1}{2}$	6	
L — 3	Noon	74 41		7 7 $\frac{1}{2}$	30,0	80 $\frac{1}{2}$	81		
M — 4	13 20 46	12 29 $\frac{1}{2}$	22 3 11	7 10	30,0	79	79 $\frac{1}{2}$	6	
N — 5	Noon	74 36		7 10 $\frac{1}{2}$	30,0	80	80		
O — 6	13 15 8	10 58 $\frac{1}{2}$	22 41 37	7 35	29,95	79	78 $\frac{1}{2}$	6	
P — 7	Noon	74 58 $\frac{1}{2}$		7 39 $\frac{1}{2}$	30,0	80	81		
Q — 8	15 4 46	13 48 $\frac{1}{2}$	23 28 50	7 56	30,0	79	77 $\frac{1}{2}$	3	
R — 9	Noon	75 11 $\frac{1}{2}$		7 59 $\frac{1}{2}$	29,9	80	80		
S — 10	Noon	75 20		8 14	30,0	80 $\frac{1}{2}$	81		
T — 11	23 33 52	19 0 $\frac{1}{2}$	24 10 54	8 20	30,0	80	78	6	
U — 12	14 30 48	27 28 $\frac{1}{2}$	24 56 53	9 7	30,0	79	78	6	
V — 13	Noon	76 15		9 14 $\frac{1}{2}$	30,0	80 $\frac{1}{2}$	80		
W — 14	15 20 41	38 18 $\frac{1}{2}$	26 19 49	10 20	30,0	78	77	3	
X — 15	Noon	77 23 $\frac{1}{2}$		10 28 $\frac{1}{2}$	29,8	79	79 $\frac{1}{2}$	6	
Y — 16	14 2 43	19 59 $\frac{1}{2}$	27 27 36	11 37	29,9	77	77		
Z — 17	Noon	78 41		11 51 $\frac{1}{2}$	29,95	79	79 $\frac{1}{2}$	6	
1 — 18	14 1 51	19 22 $\frac{1}{2}$	28 43 22	13 3	29,95	77	76	6	
2 — 19	Noon	80 2		13 18 $\frac{1}{2}$	30,05	77 $\frac{1}{2}$	77 $\frac{1}{2}$		
3 — 20	13 27 55	11 13 $\frac{1}{2}$	29 56 18	14 23 $\frac{1}{2}$	29,85	77	74	6	
4 — 21	Noon	81 22 $\frac{1}{2}$		14 42	30,0	76 $\frac{1}{2}$	76 $\frac{1}{2}$		
5 — 22	14 6 57	19 38 $\frac{1}{2}$	31 13 57	16 3	30,0	76	74	3	
6 — 23	Noon	83 0		16 23 $\frac{1}{2}$	30 0	76	76		
7 — 24	0 47 49	10 56 $\frac{1}{2}$	31 45 6	16 48	30,0	76	74	3	
8 — 25	Noon	84 17 $\frac{1}{2}$		17 44 $\frac{1}{2}$	30,0	76 $\frac{1}{2}$	75	6	
9 — 26	23 52 51	24 8 $\frac{1}{2}$	32 27 18	18 0	30,0	76	74 $\frac{1}{2}$	6	
10 — 27	14 14 29	21 21 $\frac{1}{2}$	32 39 47	18 58	30,0	75 $\frac{1}{2}$	74	6	
11 — 28	Noon	85 43 $\frac{1}{2}$		19 13 $\frac{1}{2}$	29 95	76 $\frac{1}{2}$	77		
12 — 29	0 37 15 $\frac{1}{2}$	14 47 $\frac{1}{2}$	32 44 42	19 29 $\frac{1}{2}$	30,05	76	75	6	
13 — 30	13 40 29	15 15 $\frac{1}{2}$	33 4 41	20 24	30,1	76	75	6	
14 — 31	Noon	87 16 $\frac{1}{2}$		20 49 $\frac{1}{2}$	30,05	76	76		
15 — 1	0 17 31	10 0 $\frac{1}{2}$	33 18 14	21 10	30,0	76	75	6	
16 — 2	Noon	88 47		22 21 $\frac{1}{2}$	30,15	77	77 $\frac{1}{2}$		
17 — 3	23 30 42 $\frac{1}{2}$	31 17 $\frac{1}{2}$	34 3 2	22 35	30,15	76	76	6	
18 — 4	13 29 22	11 48 $\frac{1}{2}$	34 40 52	23 28 $\frac{1}{2}$	30,15	76 $\frac{1}{2}$	76	6	
19 — 5	Noon	89 28		23 45 $\frac{1}{2}$	30,2	78 $\frac{1}{2}$	79		
20 — 6	0 18 56	21 33 $\frac{1}{2}$	34 51 57	23 58	30,2	78	78 $\frac{1}{2}$	6	
21 — 7	13 44 57	15 24 $\frac{1}{2}$	35 6 30	24 48	30,25	77 $\frac{1}{2}$	76	6	
22 — 8	Noon	88 5		25 9 $\frac{1}{2}$	30 25	78	77 $\frac{1}{2}$		
23 — 9	0 56 46 $\frac{1}{2}$	14 0 $\frac{1}{2}$	35 14 29	25 27	30,2	77	77	6	
24 — 10	Noon	86 41 $\frac{1}{2}$		26 33 $\frac{1}{2}$	30,2	77	77 $\frac{1}{2}$		

ON BOARD THE ADVENTURE.

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1774.	Time by No. 1.	Altitude of the ☉'s L. L.	Longitude West of Greenwich.	Latitude of the Ship North.	Baro- meter.	Thermoms.		No. of Obs.	Remarks.
	H	°	°	°		C.	D.		
☉ June 19.	0 19 22	22 18 $\frac{1}{2}$	35 16 37	26 52	30,2	77	75	6	
	13 52 4	18 10 $\frac{1}{2}$	35 7 35	27 42	30,2	76 $\frac{1}{2}$	75 $\frac{1}{2}$	6	
☽ — 20.	Noon.	85 16		28 0 $\frac{1}{2}$	30,3	77	76 $\frac{1}{2}$		
	13 46 43	17 38	35 6 12	28 58	30,3	77	74 $\frac{1}{2}$	6	
☽ — 21.	Noon.	83 59		29 17 $\frac{1}{2}$	30,25	79	77		
	14 3 53	21 37 $\frac{1}{2}$	35 23 12	30 34	30,3	78	75	6	
☽ — 22.	Noon.	82 21		30 55	30,3	76	75		
	13 19 31	13 7 $\frac{1}{2}$	35 31 36	32 13	30,3	76	75	6	
☽ — 23.	Noon.	80 36		32 39 $\frac{1}{2}$	30,3	76	74		
	1 19 26 $\frac{1}{2}$	11 28 $\frac{1}{2}$	35 41 19	33 2	30,2	76	74 $\frac{1}{2}$	6	
	14 0 5	21 28 $\frac{1}{2}$	36 6 45	34 2	30,35	76	72 $\frac{1}{2}$	6	
☽ — 24.	Noon.	78 50 $\frac{1}{2}$		34 23 $\frac{1}{2}$	30,45	74	73 $\frac{1}{2}$		
☽ — 25.	Noon.	77 16 $\frac{1}{2}$		35 56 $\frac{1}{2}$	30,45	74	73 $\frac{1}{2}$		
☉ — 26.	Noon.	76 0		37 50	30,35	73 $\frac{1}{2}$	72		
	23 7 31	38 8 $\frac{1}{2}$	35 50 6	37 22	30,25	74	72	6	
	14 21 1 $\frac{1}{2}$	27 26 $\frac{1}{2}$	35 15 57	37 33	30,3	73	71	6	
☽ — 27.	Noon.	75 23		37 45 $\frac{1}{2}$	30,3	74	73		
	13 49 0 $\frac{1}{2}$	22 0 $\frac{1}{2}$	34 22 5	37 51 $\frac{1}{2}$	30,1		71	6	
☽ — 28.	Noon.	75 12 $\frac{1}{2}$		37 53 $\frac{1}{2}$	30,4	73	76		
	12 51 31	12 6 $\frac{1}{2}$	33 45 34	38 31	30,2		72	6	
	13 10 23	15 36 $\frac{1}{2}$	33 44 54	38 31	30,2		72	6	
☽ — 29.	Noon.	74 22 $\frac{1}{2}$		38 40 $\frac{1}{2}$	30,35	75	74 $\frac{1}{2}$		
	14 13 2	28 26 $\frac{1}{2}$	32 43 41	39 3 $\frac{1}{2}$	30,4		73	6	
	14 43 44	34 22 $\frac{1}{2}$	32 45 36	39 4	30,4		73	5	
☽ — 30.	Noon.	73 46 $\frac{1}{2}$		39 13	30,4	74 $\frac{1}{2}$	76		
	16 15 56 $\frac{1}{2}$	53 26 $\frac{1}{2}$	30 57 20	39 57	30,4	75	73	6	
☽ July 1.	Noon.	72 49		40 6 $\frac{1}{2}$	30,3	73 $\frac{1}{2}$	74 $\frac{1}{2}$		
☽ — 2.	Noon.	72 11 $\frac{1}{2}$		40 50 $\frac{1}{2}$	30,15	72	66		Hazy.
	23 45 2 $\frac{1}{2}$	24 47 $\frac{1}{2}$	29 7 37	41 0	30,15	73	71	6	
☉ — 3.	Noon.	71 13 $\frac{1}{2}$		41 32 $\frac{1}{2}$	30,1	72	70 $\frac{1}{2}$		
	23 50 4	22 25 $\frac{1}{2}$	27 4 24	41 51	30,05	73	71 $\frac{1}{2}$	6	
	13 54 50	31 18 $\frac{1}{2}$	25 32 33	42 33	30,15	72	70	6	
☽ — 4.	Noon.	69 57		42 44	30,1	72	72		
	15 2 12 $\frac{1}{2}$	45 21 $\frac{1}{2}$	23 1 54	43 48	30,0	72	71	6	
	16 55 19	63 18							☉ S. S. E. at the first Observation.
☽ — 5.	18 20 0	68 32		44 1					Ship's course E. N. E. $\frac{1}{2}$ E. at the rate of 6 miles an hour.
	12 55 25 $\frac{1}{2}$	24 43 $\frac{1}{2}$	20 32 17	45 22	29,8	71	67	6	
	16 51 0	62 50 $\frac{1}{2}$							☉ S. S. E. at the first Observation, and S. by W. at the second. Ship's course E. N. E. $\frac{1}{2}$ N. at the rate of 7 miles an hour.
☽ — 6.	18 28 0	66 2		45 45 $\frac{1}{2}$					
	20 11 11	54 42		45 46 $\frac{1}{2}$					
	13 35 23	34 9 $\frac{1}{2}$	17 5 3	46 55	29,85	66	56	6	
☽ — 7.	Noon.	65 13 $\frac{1}{2}$		47 9 $\frac{1}{2}$	29,85	63	59		
	13 5 37 $\frac{1}{2}$	31 15 $\frac{1}{2}$	14 0 30	47 56	29,95	69	57 $\frac{1}{2}$	6	
☽ — 8.	Noon.	64 11 $\frac{1}{2}$		48 5 $\frac{1}{2}$	29,9	62 $\frac{1}{2}$	58		
	13 27 57	35 7 $\frac{1}{2}$	10 41 47	49 0	29,9	59	57	6	

1774.	Time by No 1 H	Altitude of the ☉ : L I	Longitude West of Greenwich	Latitude of the Ship North	Baro- meter	Ther- m	D	Remarks
h July 9	Noon	63 0½		49 9½	29.95	62	57	
	22 53 1	20 3	9 13 55	49 14	29.9	63	57	4
	13 25 49	39 2½	7 10 2	49 19	30.0	62	56½	6
	16 2 20	60 0						
☉ — 10	17 11 10	62 39		49 21½				O S at the first Observation Ship's course E S L & E at the rate of 6 miles an hour
	12 21 34½	30 27½	4 27 35	49 26	30.05	61	57	
☽ — 11	Noon	62 27	East	49 27½				
☽ — 12	22 3 52	20 59½	0 33 16½	49 38				6
	12 55 1	40 19	2 33 13	49 58				6
☾ — 14	11 23 42½	28 0½	5 54 33	50 45½	30.2	57½	56	6
☾ — 15	11 14 29	26 38½	5 59 46½		30.18	59	57	6
☾ — 17	11 14 15½	26 48½	6 12 37		30.22	57	54	6
☾ — 18	11 32 48	29 47½	6 16 53		30.24	56½	55½	5

According to the rate this Watch was going at when at Greenwich, before we left England, and the time it was set to at Drake's Island, in Plymouth Sound, July the 10th, 1772, it ought to have been too fast, for mean time at that place, when the Observation of July the 11th, 1774, was taken, by 9 35.6 Mr Bayley then found it too slow for mean time, at Spithead, by 7 h 56 11", 74; the Watch, therefore, places Spithead 8 h 5 47" 31, = 121 26' 50" to the East of Plymouth Sound but as it is only 3 9 15 to the East of it, the difference, 118" 11 / 35, is the Watch's error in the course of the whole voyage, that is, in two years and five days.

Mr Bayley went round with the Watch, in the ship, into the river, and July 27th delivered it at the Royal Observatory at Greenwich, when he found that at 8 h 55 by the Watch, the transit Clock shewed 13 h 32 24" the Sun's transit, that day, was at 8 h 23 53' 86 by the Clock, from whence it appears that the mean time of comparing the Watch was 5 h 13 41", 5, and of course the Watch was too fast for mean time at Greenwich, by 3 h 41 18.5 This Watch gained at the rate of 0", 8 a day on mean time from April 13 to April 25, 1772, before it went on the voyage, and it lost at the rate of 1 21, 89 a day, on mean time, from July 21 to the 27th, 1774, after its return.

I think the titles at the tops of the several columns will sufficiently explain themselves, but it may be necessary to remark, that the Thermometer marked C was kept in the cabin, close to the Watches, and that marked D was in the open air, upon deck, but kept shaded from the sun.

O B S E R V A T I O N S

O F T H E

MOON'S Distance from the SUN and Fixed STARS, for
determining the LONGITUDE at Sea,

Made on Board his MAJESTY'S Sloop ADVENTURE, in her late Voyage on
Discoveries towards the South.

By Mr. WILLIAM BAYLEY.

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1772	Time by No.	Distance by L from ☉ or *	Altitude of the ☉ L I O *	Moon's Altitude	Longitude West of Greenwich	Latitude of the Ship N	Thermom	Object
	H	"	"					
July 21		94 37 40	52 46 _T	25 12 U	9 49 _r	43 36	2	☉ and ☉
— 22		83 58 0	40 52	46 40 _T U	11 9	42 27	1	☉ and ☉
— 23		73 24 12	13 15 _T	62 12 _T L	11 34 _r	40 34	669	☉ and ☉
Aug 4	4 42 54	72 54 30	37 51 _T	49 23 _½ U	18 28	28 29	473	☉ and ☉
	6 50 28	73 35 56	10 10 _r	47 10 _½ L	17 50 _r	28 25	473	☉ and ☉
	9 47 6	38 49 10	31 14 _T	19 15 L	17 53	28 20	372	☉ and An tares
— 5	5 22 41	86 27 27	29 18 _½	45 28 _½ U	18 55 _r	27 31 _½	573	☉ and ☉
	5 52 53	86 36 0	22 38 _½	47 27 _½ U	18 41 _½	27 31 _½	473	☉ and ☉
— 10	8 32 41	43 56 7 _½	46 19	37 18 U	22 21 _r	17 24	278	☉ and An tares
	9 11 21		43 41				278	Arcturus
— 18	18 24 44	34 58 0	71 40	22 27 U	20 49 _r	10 54	176	☉ and Al- debaran
Sept 1	19 53 24 _½	114 6 25	13 19	50 55 _½ U	20 57 _½	10 47	376	☉ and ☉
	3 26 42	55 5 15	38 21 _½	76 14	5 53 _r	1 55	478	☉ and ☉
— 3	7 14 54	56 54 20	63 12 _½	58 35 _T L	8 49 _r	0 55	375 _½	☉ and ☉ Aquilæ
— 4	3 0 58	94 57 27	47 44 _½	36 10 _½ U	9 35	0 49	677	☉ and ☉
— 5	3 22 26	107 11 15	42 39 _T	28 48 U	9 40 _½	0 55	376 _½	☉ and ☉
	5 41 22	107 53 25	7 59	58 23 _½ U	9 51 _½	0 55	376	☉ and ☉
— 6	4 55 35	119 52 15	18 12 _T	39 18 _T U	9 17	0 31 South	476	☉ and ☉
— 11	10 19 57	54 59 0	61 51	59 45 _½ L	12 39 _T	3 30	372	☉ and ☉ Aquilæ
	11 20 48	44 38 20	31 1 _r	74 37 L	12 21	3 30	370	☉ and ☉ Arctis
— 17	20 43 9	110 27 54	28 29 _½	10 25 _r U	17 33 _½	12 11	573 _½	☉ and ☉
— 19	19 52 29	87 32 48	14 54	53 17 U	19 7 _½	15 19	6	☉ and ☉
— 21	20 5 43	62 36 50	27 48 _T	55 42 _r U	20 32	18 2 _½	3	☉ and ☉
	23 19 38	61 51 0	60 7 _T	39 46 _T U	20 32 _½	18 36	3	☉ and ☉
— 22	23 22 51	48 45 52	59 50 _T	49 18 _½ U	21 28	20 1	573	☉ and ☉
— 23	21 37 48	35 47 9	37 7 _½	56 17 _T U	21 58 _½	21 20	472 _½	☉ and ☉
— 29	4 20 35	37 5 5	34 48 _T	70 35 _T L	21 40	20 14	3	☉ and ☉
Oct 1	3 45 43 _½	64 10 31	38 29	72 16 U	18 9 _½	27 27	569	☉ and ☉
	4 17 59	64 20 26	31 35 _r	77 58 _r U	17 59 _½	27 26	669	☉ and ☉
— 2	4 29 51	77 21 3	28 3 _½	70 56 U	17 13	27 38	469	☉ and ☉
— 3	5 12 28	90 5 22	17 16	69 23 U	15 41 _½	28 9	363	☉ and ☉
— 4	5 45 14 _½	102 18 27	7 59	66 33 _½ U	13 45 _½	29 7	358	☉ and ☉
— 5	2 58 5	113 8 57	42 44 _T	21 47 _T U	12 2 _½	28 56	659	☉ and ☉
	3 29 34	113 22 10	36 8	28 26 U	12 0 _½	28 53	359	☉ and ☉
	3 58 30 _T	113 33 32	30 2 _T	34 34 _½ U	12 16	28 52	359	☉ and ☉
— 16	7 50 38	72 24 35	42 26 _½	27 15 L	7 39 _½	34 36	357	☉ and ☉ Aquilæ
	10 12 25	73 5 0	20 57 _½	46 54 _T L	7 30 _½	34 41	357	☉ and ☉ Aquilæ

1772	Time by No 1	Difference L from ☉ r *	Altitude of the ☉ L L o *	Moon's Altitude	Longitude W of Greenwich	Latitude of the Ship	Or	Time	Obj
	H								
Oct 11	6 59 50 7 0 26	{ Apparent time, end of the Lunar Eclipse				{ By W Bayley By Capt Lurnaux			
	9 45 37	83 50 18	24 18 $\frac{1}{2}$	36 21 $\frac{1}{2}$ L	6 5 $\frac{1}{2}$	31 46	4 57		{ and Aurora
	10 57 12	44 15 35	13 34	43 54 $\frac{1}{2}$ L	6 17 $\frac{1}{2}$	34 16	3 57		{ and Al debaran
Nov 12	10 42 31	32 23 8	12 10 $\frac{1}{2}$	35 21 $\frac{1}{2}$ L	6 40 $\frac{1}{2}$	34 53	4 57		{ and Al debaran
					East				
Nov 16	18 33 35 $\frac{1}{2}$	118 29 55	23 22 $\frac{1}{2}$	8 0 $\frac{1}{2}$ U	4 11 $\frac{1}{2}$	35 1	3 57		{ and debaran
Nov 19	14 55 54	56 19 49	35 7 $\frac{1}{2}$	28 36 $\frac{1}{2}$ L	7 58 $\frac{1}{2}$	34 32	4		{ and Al debaran
	18 43 54	82 37 0	31 24 $\frac{1}{2}$	37 15 $\frac{1}{2}$ U	8 2 $\frac{1}{2}$	34 38	3		{ and debaran
	18 57 59	82 31 15	33 20	36 1 $\frac{1}{2}$ U	7 56	34 38	5 59		{ and debaran
	20 8 7	82 6 30	47 8 $\frac{1}{2}$	27 41 $\frac{1}{2}$ U	8 51 $\frac{1}{2}$	34 38	4		{ and debaran
Nov 20	17 26 57 $\frac{1}{2}$	70 16 54	15 6 $\frac{1}{2}$	41 32 $\frac{1}{2}$ L	8 36 $\frac{1}{2}$	35 14	6 55		{ and debaran
Nov 30	2 30 55	73 54 32	29 5 $\frac{1}{2}$	56 32 $\frac{1}{2}$ L	17 43 $\frac{1}{2}$	42 32	3 52		{ and debaran
Dec 3	3 35 37	107 56 42	17 51 $\frac{1}{2}$	39 1 $\frac{1}{2}$ U	18 35 $\frac{1}{2}$	41 46	4 16		{ and debaran
Dec 4	2 21 42	118 26 24	31 2 $\frac{1}{2}$	21 25 $\frac{1}{2}$ U	17 57 $\frac{1}{2}$	45 55	5 12		{ and debaran
Dec 17	15 23 31	81 53 30	18 3 $\frac{1}{2}$	36 20 L	24 52 $\frac{1}{2}$	55 5	3 30 $\frac{1}{2}$		{ and debaran
	15 43 52	81 45 1	20 58	36 48 L	24 46 $\frac{1}{2}$	55 5	6 30		{ and debaran
	16 8 24	81 35 30	24 23 $\frac{1}{2}$	37 25 $\frac{1}{2}$ U	24 59 $\frac{1}{2}$	55 5	4 30 $\frac{1}{2}$		{ and debaran
1773									
Jan 2	3 52 12 $\frac{1}{2}$	109 10 2	13 21	6 51 $\frac{1}{2}$ U	9 59 $\frac{1}{2}$	59 0	4 11 $\frac{1}{2}$		{ and debaran
	4 59 1 $\frac{1}{2}$	109 32 30	15 1	19 14 $\frac{1}{2}$ U	10 21 $\frac{1}{2}$	58 56	3 31		{ and debaran
Jan 13	5 12 38 $\frac{1}{2}$	109 37 53	13 25	19 27 U	9 52 $\frac{1}{2}$	58 55	2 31		{ and debaran
	6 31 47	112 14 21	31 58	15 43 $\frac{1}{2}$ U	39 45	64 3	4 12 $\frac{1}{2}$		{ and debaran
	17 20 13 $\frac{1}{2}$	111 49 7	36 43 $\frac{1}{2}$	11 17 $\frac{1}{2}$ U	39 36	64 1	4 12 $\frac{1}{2}$		{ and debaran
Jan 14	17 34 38	111 41 30	38 5 $\frac{1}{2}$	9 53 $\frac{1}{2}$ U	39 40 $\frac{1}{2}$	64 1	6 32		{ and debaran
	17 22 0 $\frac{1}{2}$	98 43 31	37 13 $\frac{1}{2}$	20 9 U	40 3 $\frac{1}{2}$	63 36	4 34		{ and debaran
	17 35 58	98 37 29	38 27 $\frac{1}{2}$	18 54 $\frac{1}{2}$ U	39 32 $\frac{1}{2}$	63 36	5 34		{ and debaran
	17 49 46	98 31 40	39 48	17 31 U	39 31 $\frac{1}{2}$	63 36	3		{ and debaran
	12 20 54	53 23 37	41 23 $\frac{1}{2}$	31 10 $\frac{1}{2}$ U	51 58 $\frac{1}{2}$	56 20	2 33		{ and debaran
Feb 4	4 59 52	34 56 36	13 56	21 34 L	60 23 $\frac{1}{2}$		4 42		{ and Al debaran
Feb 6	4 57 51	61 57 22	14 18	24 33 $\frac{1}{2}$ L	62 29 $\frac{1}{2}$	48 20	4 43		{ and Al debaran
Feb 12	12 11 48	105 33 14	9 20 $\frac{1}{2}$	48 14 $\frac{1}{2}$ U	71 34 $\frac{1}{2}$	51 0	6 38		{ and debaran
	14 43 25	104 31 36	32 58 $\frac{1}{2}$	40 41 $\frac{1}{2}$ U	71 51	51 1	4 48		{ and debaran
Feb 1	16 18 59	90 34 25	46 7	24 42 U	76 14 $\frac{1}{2}$	51 37	1		{ and debaran
	16 31 17	90 24 26	17 50 $\frac{1}{2}$	21 41 $\frac{1}{2}$ U	76 18 $\frac{1}{2}$	51 37	4 38		{ and debaran
Feb 17	15 3 28	40 1 23	41 46	52 14 $\frac{1}{2}$ U	88 15 $\frac{1}{2}$	52 53	2 17		{ and debaran
Feb 28	18 9 8 $\frac{1}{2}$	74 40 22	29 32 $\frac{1}{2}$	20 57 $\frac{1}{2}$ L	122 37 $\frac{1}{2}$	50 15	2		{ and debaran
	18 34 6	74 47 57	26 5	22 8 $\frac{1}{2}$ L	122 29 $\frac{1}{2}$	50 15	5 54		{ and debaran
March 4	19 15 45	120 14 2	11 21 $\frac{1}{2}$	17 5 $\frac{1}{2}$ L	134 29	44 32	4 51		{ and debaran

1773	Time by No 1		Distance D L from ☉ or *	Altitude of the ☉ L L or *	Moon's Altitude	Longitude East of Greenwich	Latitude of the Ship S	No Fol	Therom	Object
	H	M								
u March 4	21	19 49	38 49 8 †	23 36 †	26 32½ L	134 33½	44 20	3 51		{ and Al debaran
	0	12 50½	40 17 2 †	32 13½	20 52½ L	134 57½	44 18	4 50		{ and Regulus
o — 7	21	12 22	37 37 18 †	17 27½	24 9½ L	142 40½	43 46	4 54		{ and Pollux
δ — 9	5	11 41	20 34 18 †	44 53½	25 48 L	146 47½	43 44	4 52		{ and Spica ♀
η — 10	21	7 9½	44 31 04 †	24 8	11 36½ L	147 33½	43 22	8 53		{ and Regulus
o — 14	11	41 18½	97 24 45 †	45 25½	18 49½ U	148 2½	43 23	3 56		{ and o
o — 15	7	48 18	86 3 13 †	11 42½	62 52½ U	148 37½	43 33	6 53		{ and o
	9	33 55½	85 27 7 †	29 45	49 44½ U	148 42½	43 30	4 54		{ and o
δ — 16	9	26 46	72 49 0 †	29 7½	58 45½ U	148 26½	42 4	6 53		{ and o
η — 17	9	27 22	60 25 18 †	29 42½	63 35½ U	148 26½	40 41	5 54		{ and o
o — 28	14	38 11	53 34 30 †	31 33½	31 55½ U	161 35½	40 18	4 61		{ and o
	15	26 9½	53 48 39 †	23 47½	32 43 U	161 39½	40 18	6 61		{ and o
	18	42 16½	48 8 9 †	21 12½	16 8½ U	161 56	40 24	5 62		{ and Pollux
o — 29	14	59 20	64 40 29 †	36 35½	29 19½ U	163 29½	40 42	4 62		{ and o
	15	36 15	64 50 15 †	20 20	30 42 U	163 50½	40 42	2 62		{ and o
	15	52 52	64 55 16 †	17 21½	30 56½ U	163 27	40 42	3 63		{ and o
δ — 30	15	2 37	75 49 11 †	24 4	25 57½ U	165 27½	41 17	4 64		{ and o
	15	31 1½	75 58 0 †	19 11½	27 55 U	165 3½	41 17	2 64		{ and o
	16	14 10	76 10 2 †	11 47½	29 35½ U	165 10½	41 17	4 63		{ and o
h April 3	16	16 39	123 42 15	4 31½	21 38 U		40 30	4 63		{ and o, back Obs
	17	44 25	71 13 30 †	18 5½	31 54½ L	172 25½	40 28	4 60		{ and Al debaran
	21	10 12	60 40 10 †	48 15	33 15½ L	172 45½	40 26	2 59		{ and Spica ♀
o — 4	15	43 3	136 25 10	9 30½	11 38½ U		41 21	6 63		{ and o
	15	51 56	136 29 53	7 49	13 10½ U		41 21	5 63		{ by the
	16	0 50	136 33 45	0 17½	14 39½ U		41 21	5 63		{ back Obs
	18	4 51	47 50 41 †	16 21½	32 40½ L	174 9	40 25	5 63		{ and Spica ♀
	18	31 56	43 48 4 †	19 43½	35 40½ L	173 52½	40 25	5 61		{ and Pollux
h June 9	6	32 58	115 20 36 †	8 0½	26 55½ U	179 13½	43 50	6 53		{ and o
	8	12 4½	114 34 30 †	18 33	9 24½ U	179 7½		1 54		{ and o
h — 12	7	27 8	79 59 58 †	14 15½	26 30½ U	183 57½	46 17	6 51		{ and o
	8	11 11	79 44 48 †	17 38½	19 58½ U	184 23½	46 18	5 61½		{ and o
h — 26	8	57 56½	67 58 52 †	23 16	13 42 U	196 37½	43 5½	3 18		{ and o
	10	42 57	107 35 15 †	16 57½	17 30½ U	199 2½	42 52	4 52		{ and o
h July 2	14	10 26	51 2 6 †	56 6	32 30½ U	203 42½	43 1	3 48		{ and Spica ♀

1773	Time by No. 1	Distance from L. from 0 * o *	Altitude the 0 * L L or *	Moon's Altitude	Longitude of Greenwich	Latitude of the Ship	Time	Remarks
	H							
July 5	17 18 55 ^T	51 57 52 ⁺	72 58 ⁺	36 26 I	07 5	42 55	2 16	Antar
7	18 18 3	79 45 52 ⁺	67 44 ^T	25 38 ^T L	210 18 ^T	11 51	1 19	Antar
9	4 0 42	111 26 8 ⁺	8 45 ^T	20 37 U	115 28 ^T	13 28	2 55	Antar
10	4 34 39	111 14 58 ⁺	13 7	14 35 ^T U	214 55	42 28	3 55	Antar
11	4 11 45	99 59 24 ⁺	11 25 ^T	21 21 ^T U	217 8 ^T	13 32	5 16	Antar
	3 56 33	88 56 41 ⁺	10 51 ^T	25 56 ^T U	218 48	43 16	7 17 ¹	Antar
	5 49 38	88 15 22 ⁺	21 58	8 16 ^T U	219 17		4 48	Antar
12	3 24 43	78 6 18 ⁺	7 26 ^T	30 52 ^T U	220 5	40 0	6 56	Antar
	4 23 57 ^T	77 49 42 ⁺	15 5	24 38 ^T U	220 11 ^T		6 56	Antar
25	9 51 36	64 49 35	23 36 ^T	57 39 ^T U	224 7	29 13	6 66	Antar
26	9 39 4	77 53 12 ⁺	25 49 ^T	53 16 ^T U	225 16		6 66 ¹	Antar
	9 49 5 ^T	77 56 40 ⁺	24 13 ^T	55 9 ^T U	225 14 ⁺		3 66 ¹	Antar
	10 28 50	73 10 35 ⁺	17 22 ^T	61 39 U	225 10 ⁺		3 66 ¹	Antar
27	8 25 54	90 39 0 ⁺	36 20 ^T	30 2 ^T U	225 24 ⁺	27 51	6 67	Antar
	10 58 46 ^T	91 29 5 ⁺	12 5	61 40 ^T U	225 12 ^T		2 67	Antar
	13 11 31 ^T	17 7 0 ⁺	60 8	71 19 L	225 13 ⁺		3 65	Antar
	13 34 52 ^T	81 1 13 ⁺	17 22 ^T	68 39 ^T L	225 5 ⁺		3 65	Antar
28	9 59 38	104 41 40	23 21 ^T	39 16 ⁺ U	224 28 ⁺	27 42	6 67 ¹	Antar
29	10 26 16	118 19 22 ⁺	19 14 ⁺	33 37 ⁺ U	223 54	27 20	7 68	Antar
30	10 23 17	131 43 7 ⁺	19 11 ^T	22 10 ^T U	225 11 ⁺	26 58	4 69	Antar
31	10 56 43 ^T	145 18 27 ⁺	12 58 ⁺	17 17 ^T U	225 25 ⁺		8 67 ¹	Antar
Aug 2	16 36 9	59 13 5 ⁺	54 18 ⁺	66 9 ^T L	226 58 ⁺		4 65	Antar
3	16 37 21 ^T	73 27 35 ⁺	32 24	54 21 ⁺ L	227 13 ⁺		4 67	Antar
4	1 18 59	155 13 7 ⁺	5 41 ⁺	10 31 ⁺ L	227 40 ⁺	20 49	8 76	Antar
8	3 30 40 ^T	108 19 24 ⁺	31 52 ^T	20 57 ⁺ U	222 53 ^T	17 44	6 75 ⁺	Antar
9	3 31 51 ^T	97 17 21 ⁺	30 57	30 40 U	220 52	17 24	7 75 ⁺	Antar
	4 20 43	97 0 52 ⁺	40 18 ^T	20 15 U	220 54 ^T	17 24	6 77	Antar
11	2 59 17	75 23 30 ⁺	21 43 ⁺	51 28 ⁺ U	216 30		4 78	Antar
	3 8 21	75 21 51 ⁺	23 38 ^T	50 20 ^T U	216 35		5 78	Antar
12	2 26 19 ^T	64 24 38 ⁺	13 38	4 11 L	215 29 ⁺		3 79	Antar
13	2 48 20 ^T	53 0 24	17 26 ^T	52 18 ⁺ L	213 19 ⁺	17 17	9 79 ⁺	Antar
	3 44 38	5 47 13	29 31	53 28 L	213 13 ^T	17 17	9 80	Antar
14	2 5 26	41 34 21	10 51 ^T	43 24 ⁺ L	211 46 ⁺	17 41	6 79	Antar
Sept 7	11 6 13	89 30 25	25 53 ^T	62 42 ⁺ U	210 38 ^T	17 27	8	Antar
8	3 14 37	104 47 4	12 38 ^T	43 29 U	208 35 ⁺		6 77 ⁺	Antar
9	3 7 6	94 23 59 ⁺	33 1 ^T U	408 4 ⁺	208 33 ⁺		6 78	Antar
	3 7 6	83 29 54 ⁺	27 29 ^T	46 49 ⁺ U	208 38 ⁺		6 79	Antar
	0 1	60 26 57 ⁺	40 20	52 48 ^T U	208 38 ⁺		6 76	Antar

1773.	Time by No. 1.	Distance p's 1. from S's or *.	Altitude of the S's L. L. or *.	Moon's Altitude.	Longitude East of Greenwich.	Latitude of the Ship S.	No. of Observations.	Object.
	H	"	"	"	"	"	"	"
♂ — 21.	9 4 44	58 53 11	56 7 $\frac{1}{2}$	61 39 U.	204 18	18 25	676	♂ and ☉.
	12 10 36	56 53 26	14 13 $\frac{1}{2}$	74 35 U.	204 21 $\frac{1}{2}$	18 26	476 $\frac{1}{2}$	♂ and ☉.
♀ — 24.	10 25 20 $\frac{1}{2}$	99 31 48	42 2 $\frac{1}{2}$	37 30 U.	199 40		674 $\frac{1}{2}$	♂ and ☉.
	10 37 55	99 34 51	39 17 $\frac{1}{2}$	40 21 $\frac{1}{2}$ U.	199 38 $\frac{1}{2}$		572 $\frac{1}{2}$	♂ and ☉.
♂ — 25.	9 45 53 $\frac{1}{2}$	112 0 10	54 5 $\frac{1}{2}$	14 25 $\frac{1}{2}$ U.	197 24 $\frac{1}{2}$	19 55 $\frac{1}{2}$	574	♂ and ☉.
♂ Oct. 4.	3 37 39	135 18 54		14 30 $\frac{1}{2}$ U.	184 51 $\frac{1}{2}$	At Turnagain. Lat. 21° 41'.	766 $\frac{1}{2}$	♂ and ☉.
♀ — 6.	5 25 20	112 53 41		9 52 $\frac{1}{2}$ U.	185 14 $\frac{1}{2}$		1069 $\frac{1}{2}$	♂ and ☉.
♂ — 7.	3 14 15	102 42 37	16 42	41 29 $\frac{1}{2}$ U.	185 5 $\frac{1}{2}$	21 57 $\frac{1}{2}$	671 $\frac{1}{2}$	♂ and ☉.
♀ — 8.	5 51 17	90 39 15	53 8 $\frac{1}{2}$	23 3 $\frac{1}{2}$ U.	185 20		470 $\frac{1}{2}$	♂ and ☉.
♂ — 9.	3 9 16	79 57 51	16 6 $\frac{1}{2}$	50 46 $\frac{1}{2}$ U.	184 26 $\frac{1}{2}$	22 37	1069 $\frac{1}{2}$	♂ and ☉.
	5 22 46	79 21 3	46 29 $\frac{1}{2}$	37 56 $\frac{1}{2}$ U.	184 46	22 40	670	♂ and ☉.
☉ — 10.	5 35 42	67 28 18	48 10 $\frac{1}{2}$	45 0 U.	183 7 $\frac{1}{2}$		1067 $\frac{1}{2}$	♂ and ☉.
♂ — 11.	3 43 21 $\frac{1}{2}$	55 46 34	22 23 $\frac{1}{2}$	50 16 $\frac{1}{2}$ U.	182 2 $\frac{1}{2}$		667 $\frac{1}{2}$	♂ and ☉.
	6 2 30	55 4 22	52 55 $\frac{1}{2}$	49 27 $\frac{1}{2}$ U.	181 45 $\frac{1}{2}$		663	♂ and ☉.
♂ — 20.	8 57 51	55 9 33	60 56 $\frac{1}{2}$	44 30 $\frac{1}{2}$ U.	179 39 $\frac{1}{2}$	37 47 $\frac{1}{2}$	659 $\frac{1}{2}$	♂ and ☉.
	11 58 23 $\frac{1}{2}$	56 19 40	39 43 $\frac{1}{2}$	69 52 $\frac{1}{2}$ U.	179 21	38 0	659	♂ and ☉.
♂ — 21.	10 56 27 $\frac{1}{2}$	69 30 22	45 30 $\frac{1}{2}$	53 49 $\frac{1}{2}$ U.	178 13 $\frac{1}{2}$	39 10	660	♂ and ☉.
	13 41 34 $\frac{1}{2}$	70 23 40	14 57 $\frac{1}{2}$	67 29 $\frac{1}{2}$ L.	177 59 $\frac{1}{2}$	39 17	459	♂ and ☉.
At the time of these last Observations, Table-Head in New Zealand bore due North.								
♀ — 22.	11 33 49 $\frac{1}{2}$	82 54 40	39 38	48 17 $\frac{1}{2}$ U.	176 44 $\frac{1}{2}$	40 30	357	♂ and ☉.
These were taken between Cape Turnagain and Black-Head in New Zealand.								
	12 43 5	83 19 39	26 58 $\frac{1}{2}$	58 59 U.	176 17 $\frac{1}{2}$	40 30	658	♂ and ☉.
♂ — 23.	10 53 19 $\frac{1}{2}$	95 23 10	46 56	29 53 $\frac{1}{2}$ U.	175 53 $\frac{1}{2}$	40 51	655 $\frac{1}{2}$	♂ and ☉.
	13 18 26 $\frac{1}{2}$	96 18 44	20 54 $\frac{1}{2}$	54 16 $\frac{1}{2}$ U.	176 6 $\frac{1}{2}$	40 53 $\frac{1}{2}$	655	♂ and ☉.
☉ — 24.	11 12 5	107 52 11	43 38 $\frac{1}{2}$	21 $\frac{1}{2}$ 52 U.	175 33 $\frac{1}{2}$	41 30	660	♂ and ☉.
	13 4 43 $\frac{1}{2}$	108 37 48	23 34	41 24 $\frac{1}{2}$ U.	175 22 $\frac{1}{2}$	41 32	658	♂ and ☉.
♂ Nov. 9.	2 35 55	63 33 36	14 59 $\frac{1}{2}$	41 14 U.	178 37 $\frac{1}{2}$	In Polaga Bay. Lat. 38° 21'.	657 $\frac{1}{2}$	♂ and ☉.
♀ — 10.	2 8 2	50 48 22	10 1 $\frac{1}{2}$	34 12 U.	178 30 $\frac{1}{2}$		1256	♂ and ☉.
♂ — 18.	12 14 41	51 14 26	33 54 $\frac{1}{2}$	66 6 $\frac{1}{2}$ L.	177 59 $\frac{1}{2}$	40 02	659	♂ and ☉.
♂ — 20.	14 15 55	78 7 2	11 55	59 37 $\frac{1}{2}$ L.	176 14 $\frac{1}{2}$		654	♂ and ☉.
♂ — 22.	12 49 15	102 3 52	28 3 $\frac{1}{2}$	44 13 U.	176 8 $\frac{1}{2}$	40 58	656	♂ and ☉.
Cape Turnagain N. N. W. by Compass distant 7 or 8 leagues.								
	14 14 9	102 30 20	12 27 $\frac{1}{2}$	51 41 $\frac{1}{2}$ U.	176 11	40 57	656	♂ and ☉.
♂ — 23.	11 39 10 $\frac{1}{2}$	113 14 48	41 29 $\frac{1}{2}$	20 32 $\frac{1}{2}$ U.	175 51 $\frac{1}{2}$	40 57	661 $\frac{1}{2}$	♂ and ☉.
♀ Dec. 22.	14 16 47	105 55 28	13 50 $\frac{1}{2}$	41 38 $\frac{1}{2}$ U.	174 31 $\frac{1}{2}$	41 20	665	♂ and ☉.
♂ — 23.	12 43 30 $\frac{1}{2}$	116 25 53	30 22 $\frac{1}{2}$	23 48 U.	175 16 $\frac{1}{2}$	42 29	665 $\frac{1}{2}$	♂ and ☉.
1774.								
♂ Jan. 4.	2 1 4	102 9 18	27 22 $\frac{1}{2}$	29 38 U.	192 11 $\frac{1}{2}$	55 15 $\frac{1}{2}$	649	♂ and ☉.
	2 53 38	101 47 30	34 55	24 49 $\frac{1}{2}$ U.	192 5	55 17	648	♂ and ☉.
♂ — 8.	2 5 1	63 21 30	33 26 $\frac{1}{2}$	44 53 $\frac{1}{2}$ U.	202 26	57 18 $\frac{1}{2}$	636	♂ and ☉.
♀ — 19.	6 14 29	82 20 10	41 1 $\frac{1}{2}$	17 12 $\frac{1}{2}$ U.	241 37 $\frac{1}{2}$	59 26	640	♂ and ☉.
	6 27 37	82 25 30	39 34 $\frac{1}{2}$	18 13 $\frac{1}{2}$ U.	241 39	59 27	340	♂ and ☉.
	7 29 59	82 48 58	32 10 $\frac{1}{2}$	21 53 $\frac{1}{2}$ U.	241 52 $\frac{1}{2}$	59 28	639 $\frac{1}{2}$	♂ and ☉.
♀ — 21.	9 51 23 $\frac{1}{2}$	105 48 38	11 26	16 21 $\frac{1}{2}$ U.	247 32 $\frac{1}{2}$		239 $\frac{1}{2}$	♂ and ☉.

1774	Time by No. 1	Distance D. s. L. from or *	Altitude of the ☉ s. L. or *	Moon s. Altitude	Longitude East of Greenwich	Latitude of the Ship S	No. of Obs.	Themon	Obj. s.
	H								
○ Jan 30	12 36 17	41 30 37	21 43½	1/ 51½ L	286 19½	61 28	4 41½		☉ and Spica ♈
☿ Feb 2	17 46 9	111 40 8	16 55½	30 41 U	301 13	60 39	6 41		☉ and ☉
	19 34 28	110 51 58	30 18½	20 49 U	301 49½	60 38	6 41½		☉ and ☉
♂ — 22	1 12 56½	125 7 25 +	14 41	8 17 U	349 56½	53 14	6 39		☉ and ☉ back Obs.
♀ — 25	3 9 41	70 11 33 +	15 46½	13 51½ L	358 34½	53 25	3 38		☉ and Aldebaran in
	4 41 9	63 4 38 +	15 3	0 55 L	359 0½		3 38		☉ and Spica ♈
♂ — 26	Having completed 360° of Longitude, and of course gained a day, it was here rectified by repeating this								
☿ March 2	12 38 27	118 44 33	8 44½	38 29½ U	11 42½	53 44	3 34		☉ and ☉
	14 20 38½	118 0 15	23 30½	25 45½ U	11 29½	53 38	6 34		☉ and ☉
○ — 6	17 28 57	63 32 58 +	46 2½	34 31½ U	13 46½	48 15	6 40		☉ and ☉
♂ — 7	18 47 18	62 54 28 +	45 6½	22 2 U	13 58½	48 15	6 40		☉ and ☉
	12 55 47½	52 5 50	13 24	53 7½ L	13 56½	47 53	6 38		☉ and ☉
♂ — 15	22 26 0½	37 30 58 +	15 42½	13 35 L	1/ 10½		4 69½		☉ and ☉
	0 45 0½	32 49 16 +	28 20½	10 0½ L	16 39		6 68		☉ and Aldebaran
♂ — 16	19 55 52½	48 12 26	43 36	41 33½ U	16 56	34 35	6 68½		☉ and ☉
♂ — 17	20 49 32	59 37 50	33 5	39 54½ U	17 59½	The Table Mountain E by S 6 leagues.			☉ and ☉
	22 11 10	59 59 14	16 54½	38 56 U	17 48½	34 10	6 70		☉ and ☉
♀ — 18	21 52 56½	70 54 59	20 0	38 46 U	18 22	In the Mouth of Table Bay			☉ and ☉
☿ April 20	20 27 25	106 29 56	22 16½	18 50½ U	15 58	32 28	6 64		☉ and ☉
♀ — 22	23 29 33	36 11 21 +	21 22½	38 32½ U	13 17	30 0	6 63		☉ and ☉
	23 48 13	54 47 32 +	28 47½	41 39½ U	13 29½		6 63		☉ and Spica ♈
♀ — 29	13 13 29½	125 32 28 +	17 8½	34 35 U	3 28½		6 69½		☉ and ☉
	15 7 52	124 36 45 +	39 25½	9 22½ U	3 45½		6 71½		☉ and ☉
♂ — 30	12 59 46½	112 4 0½ +	14 4	51 9½ U	2 51½		6 69½		☉ and ☉
	14 23 20½	111 30 5 +	31 17½	32 8½ U	2 42		5 74		☉ and ☉
○ May 1	14 39 47	98 6 52	34 13½	41 4 U	2 6½	20 30	6 70½		☉ and ☉
	15 36 7	97 37 2	43 59	28 13½ U	1 58	20 29	4 71½		☉ and ☉
♂ — 2	12 56 46	85 40 34	13 7½	76 5½ U	1 19½	19 38	6 69½		☉ and ☉
♂ — 3	12 33 23	73 1 58 +	8 8½	78 45½ L	0 53½		6 70		☉ and ☉
♂ — 5	19 25 52	58 17 45 +	45 20½	8 20 U	West				
	16 21 7	47 28 30 +	50 18½	60 13½ U	0 14		3 71½		☉ and ☉
♀ — 13	17 53 13	42 55 27 +	62 32½	32 54½ U	1 10		6 72½		☉ and ☉
○ — 15	20 59 2	54 43 19 +	43 19½	59 30 U	11 58½	7 59	6 75		☉ and ☉
	23 27 17	66 22 5	11 58	68 8 L	14 32	6 25	6 81½		☉ and ☉
					16 4	4 55	2 84½		☉ and ☉

ON BOARD THE ADVENTURE.

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1774.	Time by No. 1.		Distance D's L. from ☉'s or *.	Altitude of the ☉'s L. L. or *.	Moon's Altitude.	Longitude West of Greenwich.	Latitude of the Ship S.	No. of Obs.	Thermom.	Objects.
	H	"								
3 May 17.	23	24	26	77 40 39	14 13	70 40 U.	17 29½	3 40	6 79½	☉ and ☉.
4 — 18.	23	14	36	89 12 18	18 4½	63 5½ U.	19 19½	2 21	6 80½	☉ and ☉.
4 — 19.	23	20	11	101 5 55	17 58½	54 42 U.	20 3½	0 43	6 80½	☉ and ☉.
2 — 20.	21	10	19	113 17 2	21 1½	41 1½ U.	20 38½	0 34	6 80	☉ and ☉.
	1	59	17	26 32 28	57 28½	82 19 U.	20 34½	0 49	3 78½	☉ and Spica ♉.
4 — 26.	6	26	6	39 46 5	34 37	54 10 L.	24 35½	6 2	4 76	☉ and Aquilæ.
	6	38	42	65 13 7	43 18½	56 19½ L.	24 28½		4 76	☉ and Spica ♉.
5 — 28.	10	38	17½	51 27 27	22 35½	65 2½ L.	25 20½	6 34	5 75	☉ and Antares.
	11	5	9	53 43 0	58 0½	63 16 U.	25 9½		5 75	☉ and α Pegasi.
The apparent time of this last Observation was got from the altitudes of Antares.										
3 — 31.	14	53	39	89 10 10	33 59½	56 22½ U.	24 56	6 56	4 79	☉ and ☉.
	16	3	51	88 45 37	49 59	40 11½ U.	25 3½	6 56	6 80	☉ and ☉.
4 June 1.	13	31	7	77 14 20	15 30	79 44½ L.	25 18½	7 5	6 79½	☉ and ☉.
4 — 2.	15	8	24	64 51 40	37 13½	77 25½ U.	25 45	7 11	4 82	☉ and ☉.
	16	2	23	64 36 20	49 22½	65 3½ U.	25 54	7 11	6 82	☉ and ☉.
2 — 3.	14	44	25	53 16 52	31 28	83 36 L.	26 32½	7 36	2 80	☉ and ☉.
3 — 12.	21	37	27	37 13 7	54 7	88 5½ U.	34 52½	16 34	4 75	☉ and ☉.
2 — 13.	2	36	31½	26 21 32	47 29½	26 2½ L.	35 3½		6 74½	☉ and Regulus.
	0	11	23½	48 59 16	19 58½	66 57½ L.	35 53		6 75	☉ and ☉.
2 — 14.	2	38	1	67 48 45	61 36½	32 45½	35 33½		6 74½	☉ and Spica ♉.
	0	16	28½	60 20 47	19 20½	74 8½	36 24½	19 29	4 75	☉ and ☉.
4 — 15.	2	44	32½	55 30 11	60 17½	40 49½ L.	36 17½		5 75	☉ and Spica ♉.
	21	25	59	71 8 5	58 38½	49 45½ U.	36 43½	21 8½	6 75½	☉ and ☉.
4 — 16.	23	15	2½	83 31 44	34 42½	59 54½ U.	37 36½	22 33	5 77	☉ and ☉.
	3	24	6	30 10 7½	57 10½	56 3½ U.	37 35		6 76	☉ and Spica ♉.
2 — 17.	22	58	34½	95 38 31	39 16½	43 46½ U.	38 39½		6 79	☉ and ☉.
	3	12	47	17 3 11	15 18½	57 37½ L.	38 18		6 77	☉ and Spica ♉.
2 — 18.	3	55	21	37 28 40	26 20	50 19½ L.	38 21		5 77	☉ and Regulus.
	4	17	48½	62 27 22	35 32½	45 58½ L.	38 33½		6 77	☉ and Antares.
4 — 18.	0	56	45½	108 54 43	14 0½	52 9½ U.	39 15½	25 27	6 77	☉ and ☉.
	3	45	42	49 11 06	31 13½	54 49½ L.	39 21½		5 76	☉ and Antares.

ASTRONOMICAL OBSERVATIONS

1774	Time by No. 1 H	Distance L from ☉ or k	Altitude of the ☉ L. O *	Moon's Altitude	Longitude West of Greenwich	Latitude of the Ship S	No of Ob	Thermom	Object
June 19	22 38 44	120 58 48	41 11	13 46 U	39 18½	26 44	6	77½	☉ and ☉
	5 6 29	34 56 49 †	36 28	45 56, L	39 10½	17 6	5	75½	☉ and Antares
— 20	0 24 17	135 11 29	21 21	21 18 U	38 49½	28 11	6	77	☉ and ☉ back Obs
— 21	0 55 32	149 13 3	15 1	13 57½ U	39 19	29 40	6	76	☉ and ☉ back Obs
	5 29 35	58 48 48 †	38 8½	43 8, L	39 30		3	74½	☉ and ☉ Aquile
	5 48 26	42 6 26 †	28 16½	42 49, L	39 35½		3	74½	☉ and Spica ♏
— 23	5 7 15	72 28 8 †	30 55½	28 23½ L	40 36½		4	74	☉ and Spica ♏
— 27	13 32 1	119 43 52 †	18 53	32 48 U	40 10½	37 51½	6	71	☉ and ☉
	13 49 0	119 37 3	22 0	30 15, U	40 17½	37 51½	6	71	☉ and ☉
— 28	12 51 31	107 12 40	12 6½	44 47, U	39 47½	38 31	6	72	☉ and ☉
— 29	13 10 27	107 6 33	15 36, U	43 26 U	39 50½	38 31	6	72	☉ and ☉
	14 13 2	94 27 12	28 26½	41 59, U	39 17½	39 3½	6	73	☉ and ☉
	14 43 44	94 16 48	34 22, U	41 15 U	39 12½	39 4	6	73	☉ and ☉
— 30	16 4 40	81 55 35	51 22	37 28½ U	37 34	39 57	6	73	☉ and ☉
July 2	18 10 52½	58 23 22½	70 32½	33 55½ U	34 18½		4	72	☉ and ☉
— 3	13 43 11	49 39 58	29 9	56 28½ U	33 0	42 32	6	70	☉ and ☉
— 14	21 5 4½	65 28 23	20 31½		1 10	Spithead	6	56	☉ and ☉

*** It must here be observed, that all altitudes are put down as they were observed with Hadley's Sextant, from the ship's deck and consequently are to be corrected for the semi diameter of the object, the refraction, and dip of the horizon, which, on board the Adventure, was about 3 50. The lower limb of the Sun was always observed; but as this could not be the case with respect to the Moon, I have distinguished these Observations, where the lower limb was observed by the letter L, and those where the upper limb was observed by the letter U. Where the character † occurs in the column of distances, the apparent time at the ship was got from the altitudes of the Sun taken next immediately preceding the distances, and of course the longitude put down is the longitude of the ship at the time when those altitudes were taken. The character ‡ signifies that the apparent time at the ship was got from the altitudes of the Sun next immediately following. Where neither of these are found, the time was obtained from the altitudes of the Sun or Star taken with the distances.

A Z I M U T H S

O F T H E

S U N ' s C E N T E R,

Taken with an A Z I M U T H C O M P A S S,

T O G E T H E R W I T H

The A L T I T U D E S of his L O W E R L I M B,

Taken at the same Time with H A D L E Y ' s S E X T A N T,

For determining the Variation of the M A G N E T I C N E E D L E.

By Mr. W I L L I A M B A Y L E Y, and others,

On Board his M A J E S T Y ' s Sloop A D V E N T U R E.

ASTRONOMICAL OBSERVATIONS.

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1772.	Altitude of the Sun's L. L.	Magnetic Azimuth of the Sun's Center.	Variation West.	Longitude North.	Longitude West.	Observers.	Remarks.
July 18.	13 56 $\frac{1}{2}$	N. 51 34 W.	22 21	3 46 33	7 50	Mr. Fannin.	
19.	18 46 $\frac{1}{2}$	S. 77 41 $\frac{1}{2}$ E.	22 14	3 40 43	11 15		
20.	10 22 $\frac{1}{2}$	N. 45 23 W.	24 15	1 39 30	11 52		
Aug. 3.	13 51 $\frac{1}{2}$	N. 58 17 $\frac{1}{2}$ W.	19 33	4 29 14	17 30		
4.	Amplit.	N. 37 45 W.	18 20	2 18 28	18 5		
5.	11 2 $\frac{1}{2}$	N. 59 58 $\frac{1}{2}$ W.	16 45	3 27 28	18 30		
6.	12 46	N. 91 47 $\frac{1}{2}$ E.	14 9	4 24 42	19 20		
7.	8 21 $\frac{1}{2}$	N. 62 20 W.	13 42	3 23 41	19 35		
8.	Amplit.	N. 34 0 W.	16 52 $\frac{1}{2}$	1 21 48	20 10		
9.	18 40 $\frac{1}{2}$	N. 92 45 E.	12 58	3 20 42	20 40		
10.	16 27 $\frac{1}{2}$	N. 62 46 $\frac{1}{2}$ W.	16 16	3 20 0	21 0		
11.	18 46 $\frac{1}{2}$	N. 69 5 W.	9 11 $\frac{1}{2}$	2 12 48	20 45		
12.	15 29	S. 88 32 $\frac{1}{2}$ E.	9 16	2 10 50	19 40		
13.	13 38	N. 68 41 $\frac{1}{2}$ W.	12 2	3 6 20	14 30		
14.	26 34 $\frac{1}{2}$	N. 69 6 $\frac{1}{2}$ W.	12 10	3 4 9	10 46		
15.	13 6 $\frac{1}{2}$	S. 82 12 $\frac{1}{2}$ E.	16 29	4 3 20	8 39		
16.	9 47 $\frac{1}{2}$	N. 96 33 $\frac{1}{2}$ E.	14 50	3 2 47	6 55		
17.	17 13 $\frac{1}{2}$	N. 98 7 $\frac{1}{2}$ E.	16 24	2 2 4	5 40		
Sept. 1.	16 52 $\frac{1}{2}$	N. 95 20 E.	12 48	3 1 29	6 22		
2.	14 39 $\frac{1}{2}$	N. 97 7 $\frac{1}{2}$ E.	14 8	4 0 49	9 20		
3.	19 37	N. 70 54 $\frac{1}{2}$ W.	12 10	4 0 50	9 36		
4.	13 26	N. 69 6 $\frac{1}{2}$ W.	14 29	3 0 57	9 52		
5.	Amplit.	N. 69 0 W.	14 32	1 0 56	9 45		
6.	19 1	N. 99 25 E.	15 47	3 0 40	9 20		
7.	13 29 $\frac{1}{2}$	N. 70 55 E.	13 0	3 0 31	9 17		
8.	17 45	S. 80 50 E.	14 56	3 0 10	9 35	Mr. Rowe. Mr. Rowe.	Very good.
9.	13 19	S. 81 25 E.	14 1	5 0 36	10 27		
10.	17 30	S. 81 39 E.	13 51	4 1 40	11 5		
11.	14 58	S. 82 15 E.	13 1	2 2 46	11 20		
12.	13 20 $\frac{1}{2}$	N. 75 33 $\frac{1}{2}$ W.	9 27	3 4 22	13 58		
13.	14 47	N. 73 27 $\frac{1}{2}$ W.	11 33	2 6 43	14 37		
14.	Amplit.	N. 76 0 W.	10 56	1 6 43	14 37		
15.	11 14	N. 75 45 W.	7 55	1 9 54	15 57		
16.	17 49 $\frac{1}{2}$	N. 78 35 $\frac{1}{2}$ W.	5 30	3 14 9	18 42		
17.	Amplit.	N. 84 30 W.	4 23	1 14 10	18 43		
18.	20 17 $\frac{1}{2}$	S. 87 15 E.	4 29	3 18 22	20 30	Mr. Fannin. Mr. Bayley.	A compass made by Gregory.
19.	Amplit.	S. 86 15 E.	2 9	1 23 55	22 50		
20.	Amplit.	N. 92 30 E.	2 30	1 24 28	22 45		
21.	Amplit.	N. 94 0 E.	1 32	1 25 17	22 30		
22.	11 50	S. 88 40 E.	1 52	2 25 18	22 30		
Oct. 1.	14 39 $\frac{1}{2}$	S. 82 53 W.	3 44	4 27 28	18 0	Mr. Fannin. Mr. Bayley.	
2.	14 11	S. 47 20 E.	22 30	5 60 26	27 30		
3.	18 25 $\frac{1}{2}$	N. 75 30 W.	25 47	3 62 14	34 40		
4.	17 46 $\frac{1}{2}$	N. 77 35 W.					

1773	Altitude of the Sun's L. L.	Magnetic Azimuth of the ☉'s Center	Vari- ation West	Z to H	Latitude South	Longitude East	Observers	Remarks
O Jan 10	18 25 $\frac{1}{2}$ 17 46 $\frac{1}{2}$	N 74 6 $\frac{1}{2}$ W N 75 30 W	27 35	3 4	62 14	34 40	Mr Bayley Mr Fannin	A Knight's com- pass made by Adams
Mr Bayley remarks, that the four preceding Observations were made in consequence of their finding that the variations, observed on board the Resolution, differed from those observed on board the Adventure; and he says that Knight's Compass stood on the fore part of the quarter deck, and that made by Gregory on the poop								
D — 11	17 39 $\frac{1}{2}$ 8 56 $\frac{1}{2}$	N 75 45 W S 32 0 E	27 17 26 14	2 5	63 40 64 15	35 40 37 0	Mr Fannin C Furneaux Mr Kempe	Very good Good also Gregory's Compass Knight's ditto
S — 12	19 44 $\frac{1}{2}$	N 72 17 $\frac{1}{2}$ W	26 3	7	64 12	37 10		
H — 13	16 54	S 45 15 E	31 5	2	64 4	39 30		
M — 14	16 9	S 103 45 W	28 41	3	63 57	39 35		
H — 16	14 11 15 13	S 103 0 W S 103 22 $\frac{1}{2}$ W	31 30 29 43 29 49	3 4	63 57 65 0	39 35 40 3		
S — 22	20 2 $\frac{1}{2}$	S 53 8 $\frac{1}{2}$ E	28 51 33 0	6	60 24	17 40	Mr Fannin C Furneaux Mr Kempe	Very good
H — 27	15 5	S 49 6 $\frac{1}{2}$ E	33 30	3	55 5	52 10		
S Feb 2	11 12 $\frac{1}{2}$	S 45 26 $\frac{1}{2}$ E	30 55	8	48 43	58 53		
M — 4	16 19 $\frac{1}{2}$	N 64 10 W	32 28	3	49 37	56 57		
S — 5	13 37 $\frac{1}{2}$	N 69 18 $\frac{1}{2}$ W	31 22 8 55 28 55 29 10	4	48 32 48 32	60 20 60 20		
H — 6	7 34 Evening Amplitude	N 75 23 $\frac{1}{2}$ W	28 55 28 48	5	48 9 48 9	61 22 61 30	C Furneaux Mr Fannin Mr Kempe	Great motion Good
O — 7	18 23	N 69 17 W	28 1	5	49 7	63 30		
S — 12	16 3 $\frac{1}{2}$	S 49 21 E	32 3	3	51 0	71 30		
O — 14	15 37 $\frac{1}{2}$ 9 53 $\frac{1}{2}$	N 58 47 W S 47 4 $\frac{1}{2}$ E	32 15 35 14	5	51 50 52 0	76 35 78 28		
M — 18	8 33 $\frac{1}{2}$	S 51 23 $\frac{1}{2}$ E	31 30	3	52 52	91 48		
H — 20	13 15 $\frac{1}{2}$	S 59 59 $\frac{1}{2}$ E	30 11	4	52 20	99 23	Mr Kempe	Great motion
O — 21	16 16	N 56 28 $\frac{1}{2}$ W	29 11	4	52 8	100 6		
S — 23	3 19 Evening Amplitude	N 76 40 W	24 46 25 17	6	52 16 52 16	105 10 105 18		
H — 24	23 4	N 65 0 W	22 22	1	52 2	107 27		
M — 25	15 0 Evening Amplitude	N 65 25 W	20 21 21 4	1	51 32 51 32	111 12 111 20		
H — 27	15 23 2 42	S 72 11 $\frac{1}{2}$ E N 81 6 $\frac{1}{2}$ W	23 27 15 25	4	51 21 50 34	113 5 118 48	Mr Kempe	Great motion
O — 28	11 54 $\frac{1}{2}$	S 81 6 $\frac{1}{2}$ E	15 50 11 18	5	50 34	118 54		
M March 3	18 18 13 21 $\frac{1}{2}$	N 73 48 W S 91 29 E	6 26 3 9	4	49 30 45 58	124 17 130 50		
S — 5	20 39 $\frac{1}{2}$	N 75 15 E	2 5	4	43 46	138 42		

ON BOARD THE ADVENTURE.

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1773.	Altitude of the Sun's L. I.	Magnetic Azimuth of the ☉'s Center.	Variation East.	No. of Obs.	Latitude South.	Longitude East.	Remarks.
March 6.	10 50 $\frac{1}{2}$	S. 94 56 E.	1 36	5	43 57	141 0	Great motion.
7.	8 51 $\frac{1}{2}$	N. 90 3 $\frac{1}{2}$ W.	1 33	3	43 46	142 12	
8.	23 6 $\frac{1}{2}$	N. 79 47 $\frac{1}{2}$ W.	7 6	9	43 42	145 20	
	Amplit.	S. 77 10 W.	7 2	1	43 42	145 30	} In Adventure Bay.
10.	25 26	N. 58 40 E.	10 34	4	43 22	147 30	
15.	11 20 $\frac{1}{2}$	S. 89 8 $\frac{1}{2}$ W.	9 6	3	43 23	147 30	
16.	22 19 $\frac{1}{2}$	N. 62 22 $\frac{1}{2}$ E.	7 45	2	42 5	148 41	
17.	5 52 $\frac{1}{2}$	S. 86 43 $\frac{1}{2}$ W.	6 57	3	41 10	147 50	
	8 38 $\frac{1}{2}$	N. 74 51 E.	8 45	5	40 57	147 48	
19.	13 11	N. 72 2 $\frac{1}{2}$ E.	6 58	2	39 15	149 46	
20.	11 39 $\frac{1}{2}$	S. 91 38 $\frac{1}{2}$ W.	8 14	6	39 22	150 40	
24.	21 12 $\frac{1}{2}$	N. 56 53 $\frac{1}{2}$ E.	11 45	3	39 16	157 13	
25.	9 6 $\frac{1}{2}$	S. 88 56 $\frac{1}{2}$ W.	11 18	4	39 26	158 7	
	7 49 $\frac{1}{2}$	N. 69 45 E.	10 41	4	39 54	159 15	
26.	13 6 $\frac{1}{2}$	N. 86 15 W.	10 53	8	40 13	160 14	Off Cape Farewell. In Cook's Straits. In Admiralty Bay.
27.	8 55 $\frac{1}{2}$	N. 88 45 W.	10 13	9	40 16	161 16	
28.	14 11	N. 84 9 $\frac{1}{2}$ W.	11 5	6	40 19	161 40	
	9 15 $\frac{1}{2}$	N. 66 25 E.	10 55	6	40 32	162 41	
30.			12 41	3	41 17	165 16	
April 3.	6 35	N. 64 34 $\frac{1}{2}$ E.	12 12	5	40 18	173 10	
4.	4 53 $\frac{1}{2}$	N. 51 53 E.	15 2	5	41 2	174 0	
5.	9 23	N. 87 12 W.	14 3	7	40 55	174 1	
May.	Q. Charlotte's Sound.		13 31 $\frac{1}{2}$	8	41 6	174 1 $\frac{1}{2}$	
June 7.	5 20 $\frac{1}{2}$	N. 39 45 E.	13 1	4	41 37	174 30	
21.	10 44 $\frac{1}{2}$	N. 30 14 E.	10 34	5	44 30	196 17	Gregory's Compass. Knight's Compass.
22.	10 8 $\frac{1}{2}$	N. 52 55 W.	10 59	5	44 32	196 47	
27.	12 27 $\frac{1}{2}$	N. 29 56 $\frac{1}{2}$ E.	10 4	4	42 29	197 55	
	13 45 $\frac{1}{2}$	N. 28 36 $\frac{1}{2}$ E.	10 10	4	42 29	197 55	
28.	13 8 $\frac{1}{2}$	N. 29 31 $\frac{1}{2}$ E.	10 23	6	42 40	198 50	
29.	10 37 $\frac{1}{2}$	N. 33 20 $\frac{1}{2}$ E.	9 21	7	42 56	200 09	
July 1.	10 32 $\frac{1}{2}$	N. 53 36 $\frac{1}{2}$ W.	9 58	7	43 6	202 35	
2.	6 16 $\frac{1}{2}$	N. 39 18 E.	9 51	5	43 9	204 43	
6.	6 13 $\frac{1}{2}$	N. 59 36 $\frac{1}{2}$ W.	7 56	8	41 52	208 35	
8.	12 0	N. 35 45 E.	7 37	4	42 33	212 15	
11.	7 41	N. 55 16 W.	6 1 $\frac{1}{2}$	4	43 28	217 41	
12.	Amplit.	N. 64 30 W.	5 23	1	43 7	219 31	
13.	4 42 $\frac{1}{2}$	N. 60 29 $\frac{1}{2}$ W.	6 24	6	42 50	220 38	
17.	7 29 $\frac{1}{2}$	N. 49 49 E.	5 43	5	38 4	225 10	
18.	8 58 $\frac{1}{2}$	N. 59 31 $\frac{1}{2}$ W.	5 13	8	37 42	225 30	
19.	9 8	N. 61 4 $\frac{1}{2}$ W.	5 38	4	36 20	225 33	
	5 31	N. 52 5 $\frac{1}{2}$ E.	6 33	5	36 41	225 37	
22.	5 51 $\frac{1}{2}$	N. 69 3 $\frac{1}{2}$ W.	5 59	7	30 46	225 0	
	6 57 $\frac{1}{2}$	N. 56 19 $\frac{1}{2}$ E.	5 43	7	29 33	224 5	
26.	10 17 $\frac{1}{2}$	N. 66 26 $\frac{1}{2}$ W.	5 31	6	28 34	224 15	
	9 37 $\frac{1}{2}$	N. 55 52 $\frac{1}{2}$ E.	6 0	5	28 0	225 5	
29.	12 36 $\frac{1}{2}$	N. 66 17 $\frac{1}{2}$ W.	5 33	6	27 20	223 52	
	5 38 $\frac{1}{2}$	N. 70 55 W.	5 29	5	27 20	223 56	

1773	Alt of the of the	Magnetic Az in th of the ute	Vari tion Fall	Z o 2	Lat tude South	Longitude Fall	Remarks
8 July 30	1 40 $\frac{1}{2}$	N 66 57 $\frac{1}{2}$ W	5 6	7	16 57	224 54	
h — 31	6 11 $\frac{1}{2}$	N 71 13 W	6 23	5	6 9	225 15	
O Aug 1	1 41 $\frac{1}{2}$	N 57 38 $\frac{1}{2}$ E	6 17	6	13 27	226 18	
D — 2	5 22 $\frac{1}{2}$	N 62 54 $\frac{1}{2}$ E	5 12	6	22 25	226 55	
S — 3	6 40 $\frac{1}{2}$	N 72 36 $\frac{1}{2}$ W	4 29	6	21 59	227 3	
h — 4	8 1 $\frac{1}{2}$	N 72 44 $\frac{1}{2}$ W	4 54	7	21 14	227 18	
u — 5	6 5 $\frac{1}{2}$	N 73 22 $\frac{1}{2}$ W	4 6	7	20 28	227 57	
d — 10	Amplit	N 69 10 E	4 41	1	17 19	219 5	
u — 12	4 32 $\frac{1}{2}$	N 68 28 $\frac{1}{2}$ E	4 50	7	17 19	219 5	
O — 15	6 10 $\frac{1}{2}$	N 66 46 $\frac{1}{2}$ E	5 29	1	17 14	215 30	
h — 21	7 3 $\frac{1}{2}$	N 66 47 E	5 35	6	17 14	215 26	
August	15 15	N 65 56 $\frac{1}{2}$ L	6 9	4	17 48	210 50	
8 Sept 3	10 30 $\frac{1}{2}$	N 85 27 $\frac{1}{2}$ W	5 0	29	17 29 $\frac{1}{2}$	210 27 $\frac{1}{2}$	At Point Venus
h — 4	11 4 $\frac{1}{2}$	N 85 42 $\frac{1}{2}$ W	6 43	6	16 45	208 51 $\frac{1}{2}$	At theine
O — 5	8 37 $\frac{1}{2}$	N 86 23 $\frac{1}{2}$ W	7 0	4	16 45	208 51 $\frac{1}{2}$	Ditto
D — 6	Amplit	N 89 30 W	6 14	4	16 45	208 51 $\frac{1}{2}$	Ditto
S — 7	5 4 $\frac{1}{2}$	N 87 33 $\frac{1}{2}$ W	6 34	1	16 45	208 51 $\frac{1}{2}$	Ditto
u — 9	9 45 $\frac{1}{2}$	N 86 32 $\frac{1}{2}$ W	6 2	6	16 45	208 51 $\frac{1}{2}$	Ditto
h — 15	11 49 $\frac{1}{2}$	N 86 45 $\frac{1}{2}$ W	6 14	7	16 58	208 32	Off Ulatera
h — 18	4 18 $\frac{1}{2}$	N 91 51 $\frac{1}{2}$ W	6 0	6	16 45 $\frac{1}{2}$	208 35	At Ulatera
O — 19	12 0 $\frac{1}{2}$	N 89 58 $\frac{1}{2}$ W	6 15	4	16 45 $\frac{1}{2}$	208 35	Ditto
D — 20	10 41 $\frac{1}{2}$	N 78 48 $\frac{1}{2}$ E	5 50	4	17 23	206 40	
S — 21	13 28 $\frac{1}{2}$	N 77 45 E	6 12	6	17 36	206 20	
h — 26	13 21 $\frac{1}{2}$	N 77 23 $\frac{1}{2}$ E	6 9	5	17 55	205 5	
O — 29	7 48 $\frac{1}{2}$	N 93 35 W	7 7	3	18 20	204 40	
D — 30	9 22 $\frac{1}{2}$	N 79 23 $\frac{1}{2}$ E	6 53	3	18 27 $\frac{1}{2}$	204 17	
h — 31	12 38 $\frac{1}{2}$	N 78 22 $\frac{1}{2}$ E	6 57	6	18 36	203 49	
u — 3	7 22 $\frac{1}{2}$	N 80 40 $\frac{1}{2}$ E	8 26	6	20 36	193 37	
O — 6	11 6 $\frac{1}{2}$	N 99 3 $\frac{1}{2}$ W	9 21	6	21 16	186 46	
D — 9	Amplit	S 75 27 W	9 3	6	21 21 $\frac{1}{2}$	185 26	At Eaoowe
S — 11	11 29 $\frac{1}{2}$	S 78 15 W	10 11	1	21 4 $\frac{1}{2}$	185 4	At Tongatabu
h — 12	9 16	S 76 5 W	10 11	6	21 9	185 0	
O — 13	15 24	N 79 34 $\frac{1}{2}$ E	11 14	3	22 5	184 57	Great motion
D — 14	14 4 $\frac{1}{2}$	S 76 46 $\frac{1}{2}$ W	11 19	4	25 3	181 58	
u — 15	16 46 $\frac{1}{2}$	N 78 42 $\frac{1}{2}$ E	11 25	4	26 53	181 1	
O — 17	6 17 $\frac{1}{2}$	N 84 15 $\frac{1}{2}$ E	11 39	4	27 32	180 50	
D — 20	10 56 $\frac{1}{2}$	S 72 12 $\frac{1}{2}$ W	11 28	6	28 24	180 18	
h — 21	14 47 $\frac{1}{2}$	N 78 25 $\frac{1}{2}$ E	11 53	6	29 48	179 50	
u — 22	7 52	N 84 0 E	13 41	6	32 48	180 0	
O — 23	13 9 $\frac{1}{2}$	S 73 56 $\frac{1}{2}$ W	13 17	4	33 30	180 2	
D — 24	6 44 $\frac{1}{2}$	S 83 28 $\frac{1}{2}$ L	13 16	6	38 54	178 35	
h — 25	15 21 $\frac{1}{2}$	S 66 35 W	13 4	4	39 18	177 58	Off New Zealand
O — 26	10 29	S 65 40 $\frac{1}{2}$ W	13 32	6	39 53	177 16	Ditto
D — 27	8 57 $\frac{1}{2}$	S 64 4 $\frac{1}{2}$ W	14 43	6	41 48 $\frac{1}{2}$	175 58	Ditto
u — 28			13 21	6	41 18	176 42	Ditto
O — 29			13 12	6	41 38	175 40	Cape Palliser due North

ON BOARD THE ADVENTURE.

185.

1773.	Altitude of the ☉'s L. L.	Magnetic Azi- muth of the ☉'s Center.	Vari- ation East.	Long.	Latitude South.	Longitude East.	Remarks.
♂ Nov. 9.	8 4½	S. 87 47½ E.	13 12	6 38 21½	178 33½	In Tolaga Bay.	
♂ — 10.	5 53½	S. 86 50 E.	14 20	6 38 21½	178 33½	Ditto.	
♂ — 15.	11 46	N. 91 1½ E.	13 28	6 38 21½	178 33½	Ditto.	
♂ — 16.	9 46½	S. 60 57½ W.	12 46	6 38 53	178 23	Off New Zealand;	
♂ Dec. 23.	11 15	S. 83 25½ E.	14 56	6 42 44	175 0		
♂ — 24.	12 13½	S. 54 17½ W.	14 59	6 43 22	175 13		
1774.							
♂ Jan. 10.	22 12 9	S. 91 43½ E.	7 30	5 58 12	212 16		
♂ — 12.	10 52	S. 57 21½ W.	8 44	6 58 45	215 50		
♂ — 19.	12 16½	S. 62 53½ W.	7 57	3 59 29	242 15		
♂ — 21.	13 54½	S. 62 20½ W.	12 1	6 60 10	247 25		
	12 39½	S. 83 35½ E.	11 4	6 59 47	248 15		
♂ — 22.	14 55½	S. 64 53½ W.	11 49	6 59 23	249 42		
♂ — 23.	14 13½	S. 64 46 W.	11 4	5 59 19	252 54		
♂ — 24.	10 18½	S. 56 41½ W.	12 59	5 59 37	256 2		
♂ — 28.	14 15½	S. 55 11 W.	22 59	6 61 47	271 50		
♂ — 29.	14 37½	S. 55 26½ W.	24 1½	6 61 53	276 45		
♂ — 30.	13 49½	S. 53 55½ W.	24 40	6 61 31	281 55		
	9 47½	S. 45 18½ W.	25 47	6 61 30	282 0		
♂ Feb. 6.	13 26½	N. 78 15½ E.	19 20	7 59 30	313 0	Knight's Compass. Gregory's Compass.	
	14 31½		19 41	2 59 30	313 1		
♂ — 9.	16 4½	S. 71 54½ W.	15 54	6 57 12	318 48		
♂ — 10.	19 23½	S. 89 45½ W.	5 57	6 53 55	332 46		
	11 11½	S. 77 44½ W.	6 40	6 53 55	332 50		
	Amplit.	S. 53 57 W.	6 35	1 53 57	332 57		
♂ — 20.	27 9 10	N. 72 48 W.	2 14	6 53 21	341 7		
♂ — 21.	13 48½	N. 88 4 E.	0 50	8 53 16	349 17		
			West.				
♂ — 22.	11 28	S. 89 35½ W.	1 21	6 53 14	350 7		
♂ — 24.	12 43½	N. 88 57½ W.	4 57	6 52 51	356 7		
♂ — 26.	11 7½	S. 81 13½ E.	9 25	6 53 25	2 28		
Repented a day, and rejected 360 degrees of Longitude.							
♂ — 26.	13 30½	N. 75 39½ W.	10 4	5 53 34	3 48		
♂ March 1.	12 26½	N. 72 31½ W.	12 44	6 53 48	8 21		
♂ — 3.	10 5½	N. 71 5½ W.	16 20	6 52 57	12 10		
♂ — 7.	12 23½	N. 66 45½ W.	16 54	10 48 15	14 2		
	10 22	S. 77 26½ E.	16 48	6 47 53	14 0		
♂ — 12.	6 22½	S. 71 53½ E.	19 51	6 40 24	15 10		
	11 7	S. 75 52½ E.	19 58	6 40 24	15 10		
♂ — 13.	16 25	N. 59 20½ W.	20 9	6 39 36½	15 18		
♂ — 14.	13 3	N. 61 56½ W.	20 52	5 37 2	16 10		
♂ — 16.	13 29½	S. 71 5 E.	20 49	4 34 21	17 32		
			21 32½	20 33 55½	18 23½	Cape of Good Hope.	
♂ April 18.	5 1½	S. 87 6½ E.	19 43	3 32 57	16 25		
♂ — 19.	7 19½	S. 89 21½ E.	19 29½	6 32 38	16 3		
♂ — 21.	8 1½	S. 90 54½ E.	18 27	6 30 33	13 9		

ASTRONOMICAL OBSERVATIONS

1774	Altitude of the Sun L	Magnetic Azimuth of the Sun C	V. in L	Latitude South	Longitude L	Remarks
♀ April 22	Amplit	N 56 45 W	18 54	10 0	13 05	
♂ — 25	5 58	S 90 0 E	18 8	6 9	13 18	
♂ — 26	7 45 ¹	S 93 25 E	15 37	6 25 7	8 40	
♂ — 27	5 50 ^r	S 92 42 ¹ L	15 14	6 24 2	7 24	
♀ — 29	5 41 ^r	N 56 50 W	15 6	3 23 38	7 4	
♂ — 30	6 2 ^r	S 93 13 ¹ L	15 21	6 1 29	3 38	
♂ May 2	5 44 ¹	S 94 1 L	14 41	4 0 56	2 45	
♂ — 3	5 11	S 91 0 ^r E	14 44	5 19 39	1 21	
♂ — 3	Amplit 3 29 ¹	N 87 25 E	14 -5	1 19 30	0 53	
♂ — 3		S 94 5 E	14 15	3 19 30	0 53	
♂ — 5	6 8 ^r	S 96 40 ¹ E	13 22	4 17 58	West 1 11	
♂ — 9	6 43 ⁰	N 57 16 ¹ W	12 35	3 14 33	5 9	
♂ — 11	6 7 ¹	N 80 47 ¹ L	10 44	6 11 0	9 9	
♀ — 13	5 24 ¹	N 59 21 ¹ W	10 59	4 8 57	11 17	
♂ — 14	7 33 ¹	N 60 26 ¹ L	10 40	6 8 15	11 58	
♂ — 15	11 0 ¹	N 78 15 ¹ L	9 37	4 6 52	13 56	
♂ — 16	7 52	N 78 51 ¹ L	9 5	3 5 33	15 28	
♂ — 17	10 46	N 78 50 ¹ L	9 31	3 4 17	16 56	
♂ — 18	8 12	N 78 41 ¹ L	8 57	6 2 53	18 44	
♂ — 19	5 12 ¹	N 78 31 ¹ L	8 36 ¹	4 1 21	19 40	
♂ — 19	11 36 ¹	N 60 41 ¹ W	8 45	5 0 42	20 10	
♀ — 20	7 44	N 78 25 ¹ E	8 42	North 3 1 19	20 41	
♂ — 24	8 44 ¹	N 76 45 ¹ L	7 16	6 5 19	22 17	
♂ — 25	11 20 ¹	N 76 31 ¹ L	7 27	3 5 50	22 48	
♂ — 31	15 26 ¹	N 61 28 ¹ W	7 28	6 6 38	25 20	
♀ June 1	8 56 ¹	N 76 20 ¹ E	7 48 ¹	4 7 4	25 24	
♀ — 3	9 7 ¹	N 75 7 ¹ L	6 46 ¹	4 7 31	26 33	
♂ — 7	11 16 ¹	N 73 27 ¹ L	5 4	5 9 6	28 33	
♂ — 9	12 55 ¹	N 63 10 ¹ W	4 41	4 9 30	29 2	
♀ — 10	7 20 ¹	N 63 56 ¹ W	4 0	3 12 9	31 24	
♂ — 11	9 41 ¹	N 71 23 ¹ E	2 55	5 14 23	33 39	
♂ — 14	7 16 ¹	N 64 3 ¹ W	3 19	6 15 4	34 1	
♂ — 15	12 12 ¹	N 74 3 ¹ L	4 17	6 20 23	36 30	
♂ — 16	10 55	N 64 13 ¹ W	4 51	5 21 14	36 50	
♂ — 16	9 44 ¹	N 63 42 ¹ W	5 17	5 22 4	37 40	
♂ — 18	9 38 ¹	N 74 13 ¹ L	5 35	6 5 24	38 13	
♂ — 20	9 53	N 62 14 ¹ W	6 28	4 25 35	39 14	
♂ — 21	14 35 ¹	N 62 38 ¹ W	8 20	6 28 14	39 4	
♀ — 21	15 20 ¹	N 79 57 ¹ E	8 11	28 57	39 20	
♀ July 6	13 2 ¹	N 60 20 ¹ W	10 7	6 34 42	40 29	
♀ — 6	5 48 ¹	N 59 48 ¹ W	22 42	5 48 19	20 20	

A
JOURNAL

OF THE

SITUATIONS of his Majesty's Sloop ADVENTURE each Day at Noon,
during her late Voyage on Discoveries towards the South;

As shewn by the Log, by Mr. ARNOLD's two Time-keepers, No. 1. and No. 2:
and also by Observation.

TOGETHER WITH

The LONGITUDES and LATITUDES of the most
remarkable Places seen in that Voyage.

By Mr. WILLIAM BAYLEY.

ASTRONOMICAL OBSERVATIONS.

189.

1772.	Course.	Dist. Miles.	Latitude North by		Longitude West by				Remarks.	
			Account.	Observat.	Account.	Observat.	No. 1.	No. 2.		
July 12.			50 21 $\frac{1}{2}$		4 16 $\frac{1}{2}$	Took a departure from Drake's Island.				
13.				50 6	4 33 $\frac{1}{2}$					
14.	S. 16 $\frac{1}{2}$ W.	45 $\frac{1}{2}$	49 22 $\frac{1}{2}$		4 52 $\frac{1}{2}$		4 48 $\frac{1}{2}$	4 41 $\frac{1}{2}$		
15.	S. 27 $\frac{1}{2}$ W.	25	49 0	48 50 $\frac{1}{2}$	5 18		5 11 $\frac{1}{2}$	5 7 $\frac{1}{2}$		
16.	S. 43 W.	105	47 33	47 29 $\frac{1}{2}$	7 11		7 1 $\frac{1}{2}$	6 56 $\frac{1}{2}$		
17.	S. 18 W.	68	46 24	46 26	7 41 $\frac{1}{2}$		7 18 $\frac{1}{2}$	7 10 $\frac{1}{2}$		
18.	N. 35 W.	34 $\frac{1}{2}$	46 45		8 1 $\frac{1}{2}$		7 39 $\frac{1}{2}$	7 27 $\frac{1}{2}$		
19.	S. 19 $\frac{1}{2}$ W.	83	45 28	45 20 $\frac{1}{2}$	8 46		8 5	7 51 $\frac{1}{2}$		
20.	S. 4 $\frac{1}{2}$ W.	77	44 4	43 56	8 55		8 14 $\frac{1}{2}$	7 56 $\frac{1}{2}$		
21.	S. 53 $\frac{1}{2}$ W.	44	43 30	43 29 $\frac{1}{2}$	9 41		8 35 $\frac{1}{2}$	8 12 $\frac{1}{2}$		
22.	N. 66 $\frac{1}{2}$ W.	17.3	43 33 $\frac{1}{2}$	43 37 $\frac{1}{2}$	10 3 $\frac{1}{2}$	9 32	8 42 $\frac{1}{2}$	8 18 $\frac{1}{2}$		
23.	S. 35 $\frac{1}{2}$ W.	93.7	42 20	42 16	11 33	11 28	9 59 $\frac{1}{2}$	9 32 $\frac{1}{2}$		
24.	S. 28 W.	156	39 59	40 3 $\frac{1}{2}$	13 07	11 55	11 29 $\frac{1}{2}$	10 55 $\frac{1}{2}$		
25.	S. 28 W.	156	37 44	37 40 $\frac{1}{2}$	14 45	13 33	12 51 $\frac{1}{2}$	12 14 $\frac{1}{2}$		
26.	S. 27 W.	143	35 40	35 32	16 6	14 54	14 14 $\frac{1}{2}$	13 34 $\frac{1}{2}$		
27.	S. 19 W.	114	33 44	33 42	16 50	15 38	15 2 $\frac{1}{2}$	14 18 $\frac{1}{2}$		
28.	S. 49 $\frac{1}{2}$ W.	81	32 50	32 48	18 7	16 55	16 10 $\frac{1}{2}$	15 25 $\frac{1}{2}$		
Aug. 2.				32 0 $\frac{1}{2}$	16 29		16 56 $\frac{1}{2}$	15 49 $\frac{1}{2}$		
3.	S. 23 W.	51 $\frac{1}{2}$	27 52 $\frac{1}{2}$	27 53	16 52		17 19 $\frac{1}{2}$	16 9 $\frac{1}{2}$		
4.	S. 28 $\frac{1}{2}$ W.	73	28 37 $\frac{1}{2}$	28 40	17 32 $\frac{1}{2}$	18 3	18 8 $\frac{1}{2}$	16 53 $\frac{1}{2}$		
5.	S. 23 W.	51 $\frac{1}{2}$	27 52	27 53	17 55 $\frac{1}{2}$	18 26	18 41 $\frac{1}{2}$	17 13 $\frac{1}{2}$		
6.	S. 10 $\frac{1}{2}$ W.	108	26 7	26 6 $\frac{1}{2}$	18 17	19 2	19 2 $\frac{1}{2}$	17 32 $\frac{1}{2}$		
7.	S. 11 W.	124 $\frac{1}{2}$	24 5	24 9	18 42	19 27	19 4 $\frac{1}{2}$	17 56 $\frac{1}{2}$		
8.	S. 12 $\frac{1}{2}$ W.	114	22 18	22 10 $\frac{1}{2}$	19 11	19 56	19 57 $\frac{1}{2}$	18 25 $\frac{1}{2}$		
9.	S. 23 W.	125	20 14	20 9	20 05	20 50 $\frac{1}{2}$	20 24 $\frac{1}{2}$	18 53 $\frac{1}{2}$		
10.	S. 23 $\frac{1}{2}$ W.	140	18 1	18 01	21 4 $\frac{1}{2}$	22 11 $\frac{1}{2}$	21 38 $\frac{1}{2}$	20 01 $\frac{1}{2}$		
11.	S. 19 $\frac{1}{2}$ W.	116	16 12	16 12	21 45	22 50	22 19 $\frac{1}{2}$	20 40 $\frac{1}{2}$		
12.	S. 30 $\frac{1}{2}$ W.	75 $\frac{1}{2}$	15 7		22 24 $\frac{1}{2}$	23 25	22 48 $\frac{1}{2}$	21 6 $\frac{1}{2}$		
	Porto Praya in St. Jago.			14 54		23 29				
15.	S. 30 $\frac{1}{2}$ E.	74	13 48		22 48	22 48	22 30 $\frac{1}{2}$	20 33 $\frac{1}{2}$		
16.	S. 7 E.	86 $\frac{1}{2}$	12 22	12 22	22 37	22 30	22 20 $\frac{1}{2}$	20 20 $\frac{1}{2}$		
17.	S. 45 E.	45.3	11 50		22 04	21 57	21 47 $\frac{1}{2}$	19 44 $\frac{1}{2}$		
18.	S. 34 $\frac{1}{2}$ E.	51.6	11 20	11 25	21 28	21 21 $\frac{1}{2}$	20 42 $\frac{1}{2}$	18 38 $\frac{1}{2}$		
19.	S. 36 $\frac{1}{2}$ E.	47.7	10 47		20 59	20 52	19 12 $\frac{1}{2}$	17 6 $\frac{1}{2}$		
20.	S. 8 $\frac{1}{2}$ E.	73.7	9 34		20 48	20 41	19 34 $\frac{1}{2}$	17 27 $\frac{1}{2}$		
21.	S. 33 $\frac{1}{2}$ E.	32	9 7	8 41	20 12	20 06	18 58 $\frac{1}{2}$	16 48 $\frac{1}{2}$		
22.	S. 47 $\frac{1}{2}$ E.	68.2	7 55	7 52	19 22	19 16	18 7 $\frac{1}{2}$	15 54 $\frac{1}{2}$		
23.	S. 39 $\frac{1}{2}$ E.	76 $\frac{1}{2}$	6 56	6 53 $\frac{1}{2}$	18 30	18 24	16 3 $\frac{1}{2}$	13 50 $\frac{1}{2}$		
24.	S. 66 $\frac{1}{2}$ E.	73.8	6 24	6 24 $\frac{1}{2}$	17 24	17 18	14 35 $\frac{1}{2}$	12 20 $\frac{1}{2}$		
25.	S. 55 $\frac{1}{2}$ E.	55 $\frac{1}{2}$	5 52 $\frac{1}{2}$	5 54	16 38	16 32	13 49 $\frac{1}{2}$	11 31 $\frac{1}{2}$		
26.	S. 59 E.	64 $\frac{1}{2}$	5 12	5 10	15 43	15 37	11 46 $\frac{1}{2}$	9 29 $\frac{1}{2}$		
27.	S. 41 E.	74 $\frac{1}{2}$	4 16	4 14	14 54	14 48	10 56 $\frac{1}{2}$	8 34 $\frac{1}{2}$		
28.	S. 63 $\frac{1}{2}$ E.	74 $\frac{1}{2}$	3 44	3 41	13 47	13 41	9 22 $\frac{1}{2}$	6 41 $\frac{1}{2}$		
29.	S. 65 $\frac{1}{2}$ E.	62 $\frac{1}{2}$	3 13 $\frac{1}{2}$	3 15 $\frac{1}{2}$	12 50 $\frac{1}{2}$	12 44 $\frac{1}{2}$	8 47 $\frac{1}{2}$	5 44 $\frac{1}{2}$		
30.	S. 61 $\frac{1}{2}$ E.	75 $\frac{1}{2}$	2 38	2 40	11 44	11 38	6 28 $\frac{1}{2}$	4 5 $\frac{1}{2}$		
31.	S. 84 $\frac{1}{2}$ E.	62.6	2 34	2 34 $\frac{1}{2}$	10 42 $\frac{1}{2}$	10 36 $\frac{1}{2}$	4 18 $\frac{1}{2}$	1 48 $\frac{1}{2}$		
Sept. 1.	S. 45 $\frac{1}{2}$ W.	49	1 59	1 59	11 18	5 46 $\frac{1}{2}$	4 36 $\frac{1}{2}$	2 0 $\frac{1}{2}$		It appears from the Watch that a current has set for several days East, or nearly so, and the Observ. confirm it.

It appears from the Watch that a current has set for several days East, or nearly so, and the Observ. confirm it.

1772	Course	Dist Miles	Latitude North by		Longitude West by				Remarks
			Account	Observat.	Account	Observat.	No 1	No 2	
Sept 2	S 53 W	59 6	1 23	1 23	12 5 ¹	6 34 ¹	4 24 ⁸	2 48 ⁸	
3	S 72 W	74 ¹	1 0	1 01	13 16	8 32	6 35 ¹	4 5 ¹	
4	S 81 W	64 ¹	0 49	0 51	14 20	9 31	7 56	5 24 ¹	
5	N 69 ¹ W	15 7	0 56	0 56 ¹	14 35	9 42	8 08 ¹	5 37	
6	S 64 E	48	0 35	0 36	13 53	9 21	7 12 ¹	4 32 ¹	
7	S 72 E	43	0 23	0 23 ¹	13 13	8 44	6 25 ¹	3 56 ¹	
8	S 57 ¹ W	76 ¹	0 18	0 18	14 18	9 49	7 28 ¹	4 5 ¹	
9	S 54 W	62	0 54	0 54 ¹	15 08	10 39	8 24 ¹	5 52 ¹	
10	S 31 W	72	1 56 ¹	1 57 ¹	15 45	11 16	9 45 ¹	7 11 ¹	
11	S 31 ¹ W	72	2 58	2 59 ¹	16 23	11 54	10 55	1 19	
12	S 22 ¹ W	75 6	4 10	4 10 ¹	16 52	12 46	11 4	1 9	
13	S 41 ¹ W	72 ¹	5 3 ¹	5 5	17 40	13 34	12 46	10 6	
14	S 32 W	98 ¹	6 29 ¹	6 29 ¹	18 33	14 27	13 47 ¹	11 7	
15	S 21 ¹ W	106	8 9 ¹	8 10	19 12	15 06	14 26	11 16 ¹	The Ship to 6
16	S 22 ¹ W	94	9 36	9 37	19 47	15 41 ¹	15 20 ¹	12 39 ¹	trably to the S
17	S 28 ¹ W	95	10 59	10 0 ¹	20 31	16 28	16 1	13 28 ¹	W of her ice
18	S 25 ¹ W	95 ¹	12 26	12 26 ¹	21 15 ¹	17 38 ¹	16 11 ¹	14 01	loning
19	S 29 ¹ W	113	14 25	14 4 ¹	22 13 ¹	18 36	17 39 ¹	14 42 ¹	
20	S 24 ¹ W	99	15 35	15 34 ¹	22 56 ¹	19 14	18 17 ¹	15 13 ¹	
21	S 23 ¹ W	111	17 08	17 9 ¹	23 38	19 56	18 56 ¹	16 13 ¹	
22	S 15 W	93	18 39	18 39 ¹	24 3 ¹	20 36	19 26 ¹	16 35 ¹	
23	S 10 ¹ W	88	20 03	20 6 ¹	24 20	21 32	19 56 ¹	17 3 ¹	
24	S 10 ¹ W	83 ¹	21 29 ¹	21 28 ¹	24 36 ¹	22 01	20 17 ¹	17 4 ¹	
25	S 31 ¹ W	96	22 48	22 50	25 30	22 55	20 40 ¹	17 59 ¹	
26	S 5 ¹ E	83 ¹	24 11	24 13	25 21 4	22 46 4	21 30 ¹	18 13 ¹	
27	S 2 ¹ E	27	24 38 6	24 40	25 20 2	22 45 2	21 22 ¹	17 36 ¹	
28	S 22 ¹ E	52	25 25	25 28	24 58	22 23	21 11 ¹	17 23 ¹	
29	S 57 E	82 ¹	26 13	26 13	23 42	21 50	19 50 ¹	16 3 ¹	
30	S 67 ¹ E	119	27 0	26 58	21 40	19 48	17 41 ¹	13 53 ¹	
Oct 1	S 7 ¹ E	105	27 23	27 25	19 43	18 13	15 52	11 41 ¹	
2	S 77 ¹ E	42 ¹	27 34	27 33	18 57	17 07	14 35 ¹	10 29 ¹	
3	S 68 ¹ E	85 ¹	28 05	28 04	17 18	16 02	12 53 ¹	8 45 ¹	
4	S 64 ¹ E	128	28 59	28 58 ¹	15 09	14 11	10 27 ¹	6 8 ¹	
5	S 88 ¹ E	77 ¹	29 01	29 0	13 32 ¹	12 21	8 47 ¹		
6	S 8 ¹ W	42 ¹	29 43 ¹	29 42 ¹	13 42	12 29	8 54 ¹		
7	South	96	31 18	31 18	13 40	12 29	9 7 ¹		
8	S 9 ¹ E	85	32 42	32 42 ¹	13 23	12 12	8 50 ¹		
9	S 42 E	94 3	33 51 ¹	33 52 ¹	12 07	10 56	7 56 ¹		
10	S 67 ¹ E	93	34 27	34 28 ¹	10 24	19 13	5 25 ¹		
11	S 78 E	63 ¹	34 41	34 41	9 8	6 50	4 5 ¹		
12	S 73 E	24	8 37	6 04	8 37	6 04	3 33 ¹		
13	S 71 E	58 ¹	35 08	35 09	7 30	6 0	2 25 ¹		
14	S 77 ¹ E	92 ¹	35 30	35 29 ¹	5 34	4 04	0 29 ¹		
15	S 88 E	95 6	35 33	35 33	3 25	1 51	East.		
16	N 82 ¹ E	142 ¹	35 13	35 14	0 27	1 07	1 55 ¹		

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ON BOARD THE ADVENTURE.

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1772.	Course.	Dist.	Latitude South by		Longitude East by			Remarks.
			Account.	Observat.	Account.	Observat.	No. 1.	
		Miles.						
h Oct. 17.	N. 81 E.	110	34 57	34 57½	1 41	4 49	7 25½	
o — 18.	N. 79½ E.	135	34 33	34 33	4 27	7 35	10 9½	
o — 19.	N. 78½ E.	58	34 22	34 21	5 27	8 35	10 58½	
h — 20.	S. 38 E.	30.4	34 45	34 45	5 49.6	8 7½	11 24½	
h — 21.	S. 21 E.	50½	35 33	35 32	6 16	8 37	11 24½	
h — 22.	S. 17 E.	80	36 48½	36 49	6 45	9 6	11 53½	
h — 23.	S. 56½ E.	35.3	37 09	37 10	7 24	9 45	12 32½	
h — 24.	N. 61½ E.	99.3	36 39	36 39	9 22½	11 43½	15 8½	
o — 25.	N. 58 E.	138	35 27½	35 26	11 47½	14 08	17 24½	
o — 26.	N. 59½ E.	85½	34 42	34 43	13 16½	15 37	18 32½	
h — 27.	N. 47 E.	82	33 47	33 47	14 29½	16 50	19 33½	
h — 28.	N. 79½ E.	49	33 39	38 38	15 28½	17 49	20 23½	
h — 29.	S. 78½ E.	68	33 51½		16 49	19 09	21 43½	
h Nov. 23.	S. 40 W.	49½	34 33	34 34	17 41½		17 38½	
h — 24.	S. 9½ E.	46½	35 18.6	35 20	17 51½		17 47½	
h — 25.	S. 22½ W.	123	37 13.6	37 14	16 52½		16 39½	Both days the ship was S. W. of Acc.
h — 26.	S. 20½ W.	113½	39 0	39 0	16 01½		15 42½	
h — 27.	S. 24½ E.	67	40 0	40 01	16 37½		16 34½	
h — 28.	S. 5 W.	54	40 55	40 55	16 31½		16 28	
o — 29.	S. 1 W.	74.4	42 9	42 8	16 36		16 26½	
h — 30.	S. 53½ E.	30	42 27	42 26	17 9½	17 39	17 54½	
h Dec. 1.	S. 5 E.	48½	43 15	43 14	17 20	17 53½	18 5½	
h — 2.	S. 68½ E.	33	43 26		18 3½	18 36½	17 57½	
h — 3.	S. 10½ E.	63	44 29	44 28	18 20	18 40	19 23½	
h — 4.	S. 11½ W.	79	45 45	45 44	17 58½	18 2	18 44	
h — 5.	S. 14½ W.	87	47 9	47 9	17 27½	17 31	18 10½	
o — 6.	S. 2 E.	73½	43 23	43 23	17 30½	17 34½	18 13½	
h — 7.	S. 1½ W.	86.1	49 48	49 49	17 0½	17 4	17 43½	
h — 8.	N. 83½ E.	28½	49 46		17 37½	17 41½	18 21½	
h — 9.	S. 72 E.	12	49 50	49 47	17 55½	18 0	21 05½	
h — 10.	S. 5½ W.	77½	51 3	51 4	17 43½	17 48	20 55½	The first Ice Island.
h — 11.	S. 17½ E.	48	51 50	51 50	18 6½	18 11	21 43½	Ice Islands.
h — 12.	S. 23½ W.	62	52 46		17 17½	17 23	20 54½	Many Ice Islands.
o — 13.	S. 1½ E.	65.2	53 51		17 21½	17 26½	21 8½	Ditto.
h — 14.	S. 25½ E.	68	54 52	54 52	17 48½	18 16½	21 58½	Ditto Penguins.
h — 15.	S. 57½ E.	17	55 2	Cloudy.	18 14½	18 41½	22 23½	Ice Islands.
h — 16.	N. 75½ E.	57	55 06	Cloudy.	18 21½	18 49½	22 41½	Many ditto.
h — 17.	S. 45½ E.	28½	55 20	55 21	18 59½	19 27	23 54½	Ditto ditto.
h — 18.	S. 10 E.	20½	55 1	Cloudy.	19 5½	24 26	24 13½	Ditto ditto.
h — 19.	N. 44½ E.	36	54 34	Cloudy.	19 49½	25 10	25 30½	S. S. E. current,
o — 20.	N. 73½ E.	79	54 11	Cloudy.	22 6½	27 27	27 46½	ran ½ a mile an h.
h — 21.	N. 84½ E.	41	54 7	54 7	23 6½	28 27	29 40½	Many Ice Islands.
h — 22.	S. 23½ E.	49	54 50	54 52	23 40½	29 1	30 14½	Ditto.
h — 23.	S. 50½ E.	51.6	55 25	55 24	24 51½	30 12	32 2½	Ditto.
h — 24.	S. 5½ W.	66	56 30	56 29½	24 42½	30 02	32 0	Log 48 feet to 29½.
h — 25.	S. 20½ W.	90	57 54	Cloudy.	23 46½	29 6		Ditto.
h — 26.	S. 67½ W.	94	58 30	58 30	21 4½	26 22	27 32½	Little Ice.

1772	Course	Dist	Latitude South by		Longitude East by			Remarks
			Account	Observed	Account	Observed	N	
1773								
O Dec 27	N 82½ W	64½	58 21	58 21	18 48+	24 6	25 16+	Current S S E of mile in h w
D — 28	S 73 W	62	58 39	Cloudy	16 53½	22 11	23 21	Many birds
D — 29	S 65½ W	74	59 10	59 11	14 39½	29 57	21 7+	Little ice
D — 30	S 75½ W	46	59 22	59 22	13 7½	18 25	17 2½	Many Penguin
D — 31	S 59½ W	65	59 55	Cloudy	11 27½	16 45	21 7+	1 of 18 feet to 21
9 Jan 1	S 74½ W	55	60 9	Cloudy	9 42½	15 0	14 02+	1 of 48 feet to 29
D — 2	S 55 W	62	59 15	59 20	7 54½	10 4	10 5½	Many Penguin
O — 3	S 84½ E	40	59 22	Cloudy	9 4½	11 24	12 18+	Much ice
D — 4	N 76½ E	95	59 0	59 1	12 4½	14 24	15 8+	Many whales
D — 5	S 76 E	151½	59 37	Cloudy	16 54½	19 14	20 8+	Swell from N W
D — 6	S 79½ E	130	59 59+	59 59	20 46½	23 8		Ice
D — 7	S 73 E	120	60 34	60 36+	24 41½	27 1	28 58½	N W swell cont
D — 8	S 70½ E	130	61 18	61 19	29 0½	31 20	33 12½	1 of 5 feet to 29
D — 9	S 76½ E	67	61 36	61 35	32 6½	33 26	35 17½	Much ice
O — 10	S 55 E	38	61 56	61 55	32 10½	34 30	37 1+	Went at the ice
D — 11	S 22½ E	90	63 19	63 19	33 26½	35 46	38 18½	Yet much ice
D — 12	S 30½ E	65	64 14	64 14	34 40½	37 0	39 3½	Look up more ice
D — 13	East	16	64 14	64 13½	35 17½	37 37	39 40+	Much ice and few
D — 14	N 26½ E	16	63 58+	63 59	35 34+	39 41	39 57½	birds
D — 15	S 21½ E	23½	63 35	63 35	35 54+	40 03	40 16+	Many ice island
O — 16	South	57	64 32	64 32	35 54+	40 03	39 57+	Many birds
D — 17	S 2½ W	124	66 36	66 34	35 44+	39 53	39 19+	Stopped by the ice
D — 18	S 5½ E	37 2	65 58	65 58+	35 53+	40 02	39 57+	Many ice islands
D — 19	N 15 E	97+	64 24+	64 29+	36 49½	40 58+	40 4½	Ditto
D — 20	N 37½ E	38	63 59+	Cloudy	37 49½	41 41+	40 47	Ditto
D — 21	N 29½ E	84+	62 45+	Cloudy	39 15+	43 14	42 10½	Ditto
D — 22	N 41½ E	100	61 31	61 33½	41 30+	45 29	44 1+	Ditto
D — 23	N 45 E	131	60 0½	60 2	44 37½	48 36+	47 8	Ditto
O — 24	N 45 E	138	58 24	58 23½	47 48+	51 47+	50 20+	Ditto
D — 25	N 6½ E	69	58 8	Cloudy	49 58+	53 57+	52 30+	Ditto
D — 26	North	46	57 22	Cloudy	49 58+	53 57	50 49+	Ditto
D — 27	N 17 E	56	56 28	56 29½	50 27+	51 55	52 18+	Ditto
D — 28	N 18 E	124	54 32	54 32	51 33+	53 01	53 12+	Ditto
D — 29	N 17½ E	130	52 29	52 27½	52 36+	54 04	54 15+	Ditto
D — 30	N 45 E	107	51 30	Cloudy	53 54+	55 22	55 33+	Ditto
O Feb 1	N 36½ E	52	50 48	50 48	54 43½	56 11½	58 30½	
D — 2	N 12½ E	127	49 44	Cloudy	55 27½	56 55	59 24½	
D — 3	N 80½ E	71	48 28	48 32	57 35½	59 3	61 34½	Much seaweed and
D — 4	S 40½ E	17½	48 45	48 44½	57 51½	59 19	62 15½	in my divers
D — 5	N 63½ E	78	49 17	49 15	55 51½	57 39	61 8½	
D — 6	N 68½ W	18½	49 3	49 4	55 9½	60 14	60 27½	A N W swell
O — 7	N 5 E	67	47 58	48 0	55 17½	60 22½	60 35½	
D — 8	S 68½ E	145	48 53	48 53	58 38½	63 6	63 48½	
D — 9	S 45 E	114½	50 14	Cloudy	60 43½	65 11	65 53½	1 of the Resolution

1773.	Course.	Dist.	Latitude South by		Longitude East by			Remarks.
			Account.	Observat.	Account.	Observat.	No. 1.	
		Miles.						
Feb. 9.	S. 66 E.	10	50 20	50 18	60 59½	65 27	66 9½	Many penguins.
10.	N. 35½ E.	31	49 54	49 53	61 27½	65 56	67 11½	Seals and birds.
11.	S. 21 E.	29	50 22	50 18	61 42½	66 11	67 30½	Red-headed pen-
12.	S. 78½ E.	11.4	50 41	50 41	64 38½	69 6½	70 24½	guins.
13.	S. 78½ E.	121	51 5	Cloudy.	67 47½	72 7	72 36½	
14.	S. 75½ E.	132	51 41	51 39½	71 16½	75 35	76 23½	Seals, whales & birds
15.	S. 76 E.	138	52 14	52 13	75 0½	79 18	82 1½	Ditto and porpoises.
16.	S. 76½ E.	78	52 32	Cloudy.	77 04½	81 22	82 18½	
17.	S. 79½ E.	143	52 55	52 56	80 52½	85 10	86 6½	
18.	N. 88½ E.	144	52 51	52 52½	84 51½	88 52	89 38½	Sea-weed.
19.	N. 83½ E.	148	52 35	52 35	88 58½	93 0	93 47½	
20.	N. 81 E.	146	52 16	52 16	92 53½	96 55	97 48	Sea-weed.
21.	East.	108	52 16	52 14	95 49½	99 51	101 5½	
22.	S. 72½ E.	46	52 28	Cloudy.	97 40	101 42½	102 57	Saw one ice isle.
23.	N. 80½ E.	97½	52 13	52 17½	100 17	104 16½	104 58½	Sea-weed.
24.	N. 83½ E.	89	52 8½	52 7	102 49½	106 49	107 46½	
25.	N. 78½ E.	128	51 40½	51 41½	106 16½	110 16	111 28½	
26.	N. 81½ E.	147	51 18	Cloudy.	109 52½	114 2	115 19½	
27.	N. 78 E.	150	50 47	Cloudy.	113 59½	117 59	119 16½	
28.	N. 81 E.	150	50 24	50 24	117 59½	121 49	123 9½	Rock-weed.
March 1.	N. 53½ E.	134	49 04	49 02	120 51½	124 41	126 1½	
2.	N. 52½ E.	150	47 29	Cloudy.	123 51½	127 41	129 1½	Log 48 feet to 29½ f.
3.	N. 56 E.	128	46 18	Cloudy.	126 25½	130 15	132 10½	Sea-weed, and the
4.	N. 42½ E.	121	44 48	44 48½	128 25½	132 15	134 20½	water discoloured.
5.	N. 67½ E.	123	44 04	44 3½	131 0½	136 10	137 17½	
6.	N. 88½ E.	144	43 58	43 47½	134 20½	139 30	141 0½	
7.	N. 84½ E.	9½	43 47	43 46½	136 30½	141 40	143 08½	
8.	N. 87 E.	110	43 41	43 40½	139 02½	144 37	145 27½	
9.	East.	69.6	43 43	43 45½	140 39½	145 07	147 03½	Saw land.
	Mew Stone, off Van Dic-			43 48		146 27		
	man's Land							
	The South West Point of			43 38		145 55		
	Van Dieman's Land							
	The South East Point of			43 38		146 59		
	Van Dieman's Land							
	Adventure's Bay, in Van			43 23		147 30		
	Dieman's Land							
10.	N. 76½ E.	36	43 40	43 40	141 25½	147 20	147 57½	
11.	N. 58½ E.	26	43 26	43 23	141 55½	147 30	148 46½	
16.	N. 71 E.	38	43 07½	43 08	148 19	148 26	149 33½	
17.	N. 11 E.	85½	41 44	41 44	147 56½	148 11½	149 41½	
18.	North.	82	40 22	40 21½	147 56	148 08	150 02½	
19.	N. 17½ E.	63	39 21	39 21	148 22	148 33½	150 19½	
20.	East.	77	39 22	39 22½	150 03	150 13	152 0½	
21.	N. 85½ E.	69½	39 16½	39 16½	151 43	151 43	153 30½	
22.	S. 78½ E.	59	39 28½	Cloudy.	152 47	152 58	154 47½	
23.	N. 73½ E.	70	39 8½	Cloudy.	154 14	154 25	156 14½	

ASTRONOMICAL OBSERVATIONS

1773	Course.	Dist Miles	Latitude South by		Longitude East by			Remarks
			Account	Observed	Account	Observed	No 1	
March 24	N 79 E	58	39 59	38 57½	155 26½	155 37	157 12½	Ship S of account
25	S 75½ E	95	39 21	39 20½	157 26½	157 37½	159 04½	
26	S 65 E	108	40 06	40 6½	159 33	159 44	161 02½	
27	S 83 E	65 5	40 14	40 14½	160 55	161 06	162 31½	
28	East	20	40 15	40 15½	161 21	161 32	163 12½	
29	S 64½ E	61	40 42	40 42	162 33	163 07	164 35½	
30	S 72 E	100	41 13	41 13	164 39	164 49	166 35½	
31	S 77 L	90	41 33	41 33	166 37	166 47	168 34½	
April 1	N 89 E	80	41 31	41 30½	168 25	168 35	170 22½	
2	N 82 E	97	41 17	Cloudy	170 35	170 45	172 32½	
Cape Farewell, in New Zealand			40 38½			172 11½		
3	N 50½ E	57	40 41	40 40	171 35	171 45	173 46½	
4	N 66 E	59½	40 16	40 16	172 45	173 15	175 13½	
5	S 41½ E	48	40 52	40 52½	173 27	174 07	175 57½	
Queen Charlotte's Sound in New Zealand			41 5½			173 55		
Cape Palliser, in New Zealand			41 35			175 0		
June 7			41 3½	41 3½	174 01	174 01	174 01	A N W swell
8	S 39½ E	65	41 53½	41 53½	174 51	174 51	174 51	
9	S 54 L	99	42 51½	42 50	176 49	176 49	176 49	
10	S 56½ E	115	43 55½	43 57½	179 7½	179 26	179 16	
11	S 56½ E	87	44 45	Cloudy	180 47	181 06	181 06	
12	S 62½ E	129	45 46	Cloudy	183 30	183 49	183 49	A N E swell
13	S 25 E	47½	46 29	Cloudy	184 0	184 7½	184 31½	
14	S 69½ E	45	46 46	46 43½	185 07	185 14½	185 30½	
15	East	37	46 44	46 45½	186 01	186 08	186 24	
16	S 24½ E	41	47 26	Cloudy	186 25	186 32	186 48	
17	N 71½ E	58	46 28	46 19½	186 25	186 32	186 48	Ditto
18	N 66 L	96½	45 49	45 49½	188 37	188 44	188 11	Ditto
19	N 69½ E	91	45 11	45 12½	190 39	190 46	189 55½	Ditto
20	N 69½ E	119	44 31	44 30	193 18	193 25	192 34	Sea-weed
21	N 78½ E	64	44 18	44 17	194 45	194 52	194 6½	Log 45½ f to 29½
22	S 78 E	68 9	44 31	44 32½	196 25	196 32	195 50	Log 48 feet to 29½
23	S 84½ E	55	44 37	44 36½	197 42	197 49	197 13½	Many whales and birds
24	N 6½ E	56	43 42	Cloudy	197 45	197 52	197 17	
25	N 28 W	33	43 13	Cloudy	197 23	197 30	196 55	
26	N 7½ W	9	43 05	43 05½	197 13	196 40	196 34	
27	North.	42	42 25	42 23½	197 13½	196 30	196 34	
28	East.	41	42 24	42 23½	198 09½	198 04	197 46	
29	S 48½ E	33	42 46	42 45½	198 44	199 0	198 24	
30	S 77 E	62	43 0	42 59½	200 09	200 25	199 36	
July 1	S 85½ E	84	43 06	43 05½	202 03	202 19	201 16	
2	N 85½ E	65	43 0	42 59½	203 32	203 48	202 56	
3	S 76 E	58	43 14	43 13½	204 52	205 03	204 23	

1773.	Course.	Diff.	Latitude South by		Longitude East by			Remarks.
			Account.	Observat.	Account.	Observat.	No. 1.	
		Miles.						
July 4.	S. 40° E.	56	43 56	43 57½	205 42	205 54	205 10	
5.	N. 71½ E.	104	43 24	Cloudy.	207 57	208 09	205 01	
6.	N. 20½ E.	84	42 05	42 05	208 37	208 17	208 07	
7.	N. 36½ E.	60	41 17	41 17½	209 25	209 05	209 00	
8.	S. 62 E.	90	41 59½	51 57	211 8	210 49	210 52	
9.	S. 62½ E.	88	42 38	42 38½	212 52	212 33	212 57	Log 48 feet to 29" 1.
10.	S. 62½ E.	130	43 38	43 38½	215 27	215 36	215 46	A Western swell.
11.	N. 85½ E.	93	43 30	43 30½	217 39	217 23	217 58½	
12.	N. 78½ E.	82	43 13	43 13½	219 31	219 19	209 50	
13.	N. 71 E.	46	42 58	42 57½	220 32	220 20	220 56	
14.	N. 82 E.	54	42 50	Cloudy.	221 44	221 32	222 08	
15.	N. 24½ W.	18½	42 33	Cloudy.	221 35	221 23	221 59	
16.	N. 47 E.	102½	41 22½	41 23	223 12½	223 04	223 55	
17.	N. 43½ E.	138	39 42	39 42½	225 15	225 04	226 22	A S. W. swell.
18.	N. 10½ E.	113	37 51	37 51½	225 40	225 29	226 36	Swell from the South.
19.	N. 5½ E.	81.3	36 30	36 31	225 50	225 39	226 55	Log 43 feet to 29" 4.
20.	N. 2½ W.	71	35 19	35 19½	225 47	225 36	226 48½	
21.	N. 9½ W.	154	34 27	Cloudy.	225 19	225 08	226 20	
22.	N. 15½ W.	108	31 03	31 03½	224 46	224 35	225 34	Log 48 feet to 29" 4.
23.	N. 11½ W.	104	29 21	29 21½	224 24	224 13	225 19	
24.	S. 73½ W.	75	29 43	Cloudy.	223 0	222 49	223 55	
25.	S. 86 W.	44½	29 46	29 46	222 16	222 05	223 11	
26.	N. 41 E.	70	28 53	28 53½	223 09	224 14	224 09	
27.	N. 10½ W.	59	27 55	27 55½	223 20	225 14	225 10	
28.	N. 67½ W.	33	27 42	27 42½	222 57	224 39	224 58	
29.	N. 71½ W.	41½	27 29	27 29½	222 13	223 42	224 0	
30.	N. 64½ E.	58	27 03	27 03½	223 15	224 44	225 17	Tropic birds.
31.	N. 26 E.	48	26 20	26 19½	223 40	225 09	225 46½	Ditto.
Aug. 1.	N. 33½ E.	82	25 10	25 11	224 48	225 57	226 34	
2.	N. 6½ E.	118	23 14	23 14½	224 42	226 11	226 44	Ship N. E. of account.
3.	N. 14½ E.	65	22 11	22 10½	224 59	226 59	227 07	Many tropic birds.
4.	N. 10½ E.	49	21 21½	21 22½	225 08	227 10	227 15	Ship N. E. of account.
5.	N. 49½ E.	66	20 38	20 39½	226 03	227 50½	228 32	
6.	N. 33½ E.	65	19 44	19 44½	226 43	228 35	229 27	
7.	N. 53½ W.	85	18 53	18 51½	225 29	227 28	228 13	
8.	N. 72½ W.	148	18 06	18 04½	222 55	224 47	225 35	Log 48 feet to 29" 4.
9.	N. 79 W.	116	17 42	17 41½	220 51	222 33	223 30	
10.	N. 81½ W.	118	17 23	17 23½	218 47	220 32	221 26	
	A low island seen this day.			17 24		218 53		
11.	N. 86½ W.	117	17 16	17 16½	216 44	218 29	219 29	
	A low island seen to-day.			17 6		216 34		
12.	N. 86½ W.	98	17 10	17 9½	215 02	216 10	217 54	
	Another low island.			17 4		215 31		
13.	S. 86½ W.	75	17 15	17 14½	213 43½	215 11	216 46	
14.	S. 88½ W.	110	17 17	17 17½	211 48	212 50	215 08	

1773	Course	Dist Miles	Latitude South by		Longitude East by			Remarks
			Account	(Observation)	Account	Observation	No 1	
Osnaburg Island								
○ Aug 15	S 74° W	106	17 46	17 49½	210 03	211 47	213 28	
2 — 16	W 11	44		17 46½	209 17	211 05	212 40	
	Oaitipcha Bay, in Otaheite			17 45		210 36½		
	Point Venus, in Otaheite			17 29½		210 27½		
24 Sept 2	N 57° W	50		16 59½	209 38½			
	Owharie Bay, in Huahine			16 45		209 0		
	Ohumaneno Harbour, in Ulitea			16 45½		208 34½		
2 — 17				16 50½	208 11	208 11	208 03	
2 — 18	S 68½° W	71	17 16	17 15½	207 02	207 02	206 43	
○ — 19	S 69° W	67	17 40	17 39½	205 54	205 54	205 30	
2 — 20	S 70° W	62	18 01	18 01½	204 50	204 50	204 35	
2 — 21	S 65½° W	53	18 22½	18 23½	204 0	204 25	203 39	
2 — 22	S 72½° W	51	18 39½	18 39½	203 06	203 31	202 44	
24 — 23	S 73½° W	93	19 05	19 57½	201 33	201 58	201 11	
	Hervey's Islands			19 16		201 50		
2 — 24	S 74½° W	82	19 28	19 28	200 10	200 20	199 38	
2 — 25	S 79½° W	119	19 52	19 52½	198 06	197 10	197 38	
○ — 26	S 75½° W	128	20 24	20 25	195 52	195 26	195 43	
2 — 27	S 83½° W	129	20 38	20 39½	193 35½	193 09½	193 26½	Long 48 f ct to 20
2 — 28	S 80° W	146	21 04	21 03½	190 58½	190 32½	190 49½	
2 — 29	S 77½° W	110	21 28½	21 28½	189 01½	188 35½	189 40	
24 — 30	N 83° W	136	21 12	21 11½	186 35	186 09	187 15	
2 Oct 1	S 84° W	83	21 20½	21 20½	185 06	184 40	185 59	
	Anchoring Place of Tongatabu			21 4½		185 10		
2 — 8	S 11½° W	58	22 01	22 01½	185 03	185 03	184 23	
2 — 9	S 52½° W	36	22 25	22 25½	185 36	185 28	184 54	
	Pylestaart Island			22 22½		184 25		
○ — 10	S 66½° W	50	22 45	22 45½	184 47	184 15	183 38	
2 — 11	S 42½° W	93	23 51	23 53½	183 39	183 0	182 32	Ship S W of Account
2 — 12	S 28° W	110	25 31	25 30½	182 42	181 43	181 31	Long 48 f ct to 20
2 — 13	S 2½° W	110	27 11	27 11½	181 55	180 56	180 40	Many Albatrosses
24 — 14	S 22½° W	97	28 42	Cloudy	181 13	180 14	180 0	
2 — 15	S 14° W	96	30 15	30 15½	180 46	179 47	179 25	Many Albatrosses
2 — 16	S 2½° W	84	31 38	31 38½	180 44	179 45	179 23	Many Porpoises
○ — 17	S 10½° E	67	32 43	32 43½	180 57	179 58	179 27	
2 — 18	S 6½° E	65	33 47	33 47½	181 05	180 05	179 34½	
2 — 19	S 5½° E	128½	35 54	35 54½	181 21	180 21	179 50½	
2 — 20	S 6½° W	111½	37 45	37 44½	181 06	179 45	179 30	
24 — 21	S 24½° W	90	39 06	39 06½	180 19	178 26	178 10	Saw N Zealand
2 — 22	S 53½° W	114 4	40 15	40 15½	178 20	176 30	176 31	
2 — 23	S 28½° W	44	40 53	40 53½	177 56	176 05	176 14	
○ — 24	S 36° W	47	41 31	41 31	177 19	175 28	175 40	
2 — 25	S 30° W	52	42 16	42 16	176 49	174 58	175 10	
2 — 26	S 36° W	21	42 33	42 32½	176 38	174 42	174 48	

1773.	Course.	Dist. Miles.	Latitude South by		Longitude East by			Remarks.
			Account.	Observat.	Account.	Observat.	No. 1.	
			° ' "	° ' "	° ' "	° ' "	° ' "	
Oct. 27.	S. 22½ W.	17	42 17	42 17½	176 29	174 33	174 39	
28.	East.	27	42 18	42 18½	177 06	175 10	174 50	
29.	N. 31½ E.	32.6	41 50	41 50½	177 29	175 33	175 0	
30.	S. 45 W.	4	41 53	41 53½	177 25	175 29	174 56	
31.	S. 12½ E.	40	42 32	42 32	177 37	175 41	175 08	
Nov. 1.	S. 8½ E.	20½	42 52	Cloudy.	177 41	175 45	175 12	
2.	N. 7½ E.	65½	41 37	41 37½	177 56	176 0	175 06	
3.	N. 52½ W.	28	41 20	41 20½	177 26	175 30	175 04	
4.	S. 53½ W.	21	41 36	41 36	176 56	175 0	174 05	
5.	S. 34½ E.	19	41 49	Cloudy.	177 05	175 09	174 14	
6.	N. 61½ E.	25.8	41 37	41 37½	177 53	175 57	175 02	
7.	N. 30½ E.	135	39 41	39 41½	179 21	177 25	176 30	
8.	N. 21½ E.	41	39 03	39 01½	179 47	177 51	176 56	
9.					179 36	177 40		
	Tolaga Bay, New Zealand.			38 21½		178 33½		
16.				38 31½	178 37½	178 37½	177 02½	
17.	S. 20½ W.	75	39 43	39 42	178 07½	178 07½	176 27	
18.	S. 45 W.	24	39 59	39 59	177 45	177 44½	176 08	
19.	S. 39 W.	48	40 38½	40 39½	177 09	177 08½	175 32	
20.	S. 48½ W.	36	41 03	41 02½	176 33	176 18	175 02	
21.	S. 89½ W.	22	41 05	41 05	176 08	175 53	174 37	
22.	East.	17	41 04	41 04½	176 32	176 25	175 37	
23.	N. 67½ W.	20	40 54	40 54½	176 08	175 53	175 07	
24.	S. 36½ W.	52	41 36	41 36½	175 28	175 13	174 27	
25.							173 30	
26.							173 21	
27.				41 57½				
28.								
29.				42 06½			173 22	
	Queen Charlotte's Sound.			41 5½		174 7½		
Dec. 23.				42 25½	175 10	175 10	175 13	
24.	S. 12½ W.	36	43 0	43 0½	175 0	175 0	175 0	Log 48 feet to 29½.
25.	S. 23½ E.	107	44 39	44 39	175 56	175 56	175 59	Many grampasses.
26.	S. 34½ E.	79	45 44	45 42½	176 59	176 59	176 57	Many seals.
27.	S. 36½ E.	52½	46 25	Cloudy.	177 44	177 44	177 42½	Many birds.
28.	S. 39½ E.	52	47 06	Cloudy.	178 32½	178 32½	178 31	Many birds and seals.
29.	S. 16½ E.	64	48 07	48 07½	178 57½	178 57½	178 51	The ship S. E. of Acc.
30.	S. 17 E.	90	49 31	Cloudy.	179 37	179 37	179 31	Penguins, drift-wood, rock-weed, and seals.
31.	S. 8 E.	64	50 36	Cloudy.	179 50	179 50	179 44	
1774.								
Jan. 1.	S. 70½ E.	36	50 48	50 56½	180 44	180 44	180 55½	Ship S. of Acc.
2.	S. 65½ E.	97	51 38	51 36½	183 01	183 01	183 12	Log 48 feet to 29½.
3.	S. 50½ E.	148	53 11	Cloudy.	186 8½	186 8½	186 19½	Saw seals.
4.	S. 50½ E.	142	54 41	Cloudy.	189 15½	189 15½	189 26½	
5.	S. 64½ E.	121	55 29	55 28½	192 27½	192 54	192 42	Whales.
6.	S. 62 E.	124	56 27	Cloudy.	195 41	196 07½	195 55½	Saw rock-weed.
7.	S. 76 E.	122	56 56	Cloudy.	199 19	199 42½	199 30½	

1774.	Course	Dist Miles	Latitude South by		Longitude East by			Remarks
			Account	Observation	Account	Observation	Time	
h Jan 8	S 84° E	91	57 6'	57 5'	202 06	202 12	02 47	
o --- 9	S 77° E	101	57 00	57 28	205 25	06 01'	06 06	Many whales and birds
p --- 10	S 70° E	94	57 56	Cloudy	208 11	06 18	208 5	
s --- 11	S 79° E	124	58 18	58 18	212 10	12 46	12 51	Three Ice Islands
y --- 12	S 74° E	86	58 40	58 40	214 43	215 20	215 5	Several Ice Islands
u --- 13	S 83° E	41	58 45	58 45	16 2	216 39	217 16	Ditto
f --- 14	East	37	58 46	Cloudy	217 15	217 50	18 27	
i --- 15	S 86° E	123	58 40	58 46	21 11	221 48	2 3 01	
o --- 16	S 89° E	120	58 50	58 50	225 03	225 40	2 6 51	Much ice
p --- 17	S 82° E	118	59 05	59 54	228 54	229 31	23 08	End of ice to 29°
s --- 18	S 87° E	155	59 11	59 11	234 0	234 37	37 29	Saw rock weed
y --- 19	S 84° E	150	59 25	59 44	38 26	241 05	41 43	A western swell
u --- 20	S 78° E	140	59 5	59 52	243 0	245 39	246 17	
f --- 21	S 68° E	41	60 0	60 09	244 26	247 20	248 05	A N W swell
h --- 22	N 55° E	66	59 31	59 31	246 13	249 07	250 06	A S W swell
o --- 23	N 79° E	86	59 15	59 15	249 0	251 51	252 51	Ditto
p --- 24	S 81° E	106	59 33	59 33	25 32	255 06	257 02	Ditto
s --- 25	S 69° E	150	60 1	Cloudy	56 36	59 50	261 06	Many birds
y --- 26	S 71° E	108	60 48	Cloudy	260 08	265 02	264 35	
u --- 27	S 77° E	110	61 13	Cloudy	265 51	266 45	268 16	A N W swell
f --- 28	S 71° E	120	61 31	61 31	267 26	270 50	73 49	Ditto
h --- 29	S 87° E	131	61 50	61 50	272 40	275 54	278 31	Ditto
o --- 30	N 81° E	116	61 31	61 34	277 46	280 10	284 03	Porpoises and birds
p --- 31	N 86° E	130	61 20	Cloudy	92 17	288 17	289 17	Ditto
s Feb 1	N 82° E	110	61 10	61 10	208 04	92 04	292 21	A westerly swell
y --- 2	N 79° E	130	60 41	60 41	290 28	296 28	298 15	Ditto
u --- 3	N 86° E	147	60 36	60 36	95 1	302 47	303 17	Ditto
f --- 4	N 86° E	176	60 52	Cloudy	99 40	307 06	307 36	Birds innumerable
h --- 5	N 8° E	116	60 18	Cloudy	303 32	310 58	311 11	A N W swell
o --- 6	N 70° E	42	60 01	Cloudy	304 53	312 19	312 49	Many Ice Islands
p --- 7	N 35° E	57	59 17	59 17	105 58	313 21	314 54	Many birds Ice
s --- 8	N 52° E	70	59 30	58 30	307 54	315 0	317 20	The westerly swell
y --- 9	N 75° E	118	7 20	57 20	310 57	318 18	320 18	continues
u --- 10	N 68° E	60	56 53	56 53	312 37	320 03	322 03	Many Ice Islands
f --- 11	N 6° E	54	50	Cloudy	314 58	322 42	324 24	Red headed Peng
h --- 12	N 41° E	71	55 8	Cloudy	316 21	323 17	325 47	Birds
o --- 13	N 56° E	92	54 38	Cloudy	318 30	325 57	327 56	Yet a westerly swell
p --- 14	N 77° E	71	54 2	Cloudy	320 41	327 59	329 59	Many seals Ice
s --- 15	N 84° E	106	54 11	Cloudy	323 33	330 59	332 59	Some seals
y --- 16	N 79° E	46	54 02	54 02	324 50	332 16	336 9	No westerly swell
u --- 17	S 85° E	99	54 10	Cloudy	327 38	335 04	338 57	Swallow tailed
f --- 18	East	46	54 12	54 12	328 57	336 3	340 16	Swell from the N
h --- 19	N 78° E	60	54 0	54 0	330 38	338 04	341 57	Swell from N N W
o --- 20	N 66° E	93	53 20	53 20	333 01	340 27	343 56	Saw weed birds and
p --- 21	N 50° E	108	53 24	53 24	336 02	343 28	346 50	Saw ice in the
s --- 22	N 54° E	92	53 11	53 11	338 34	349 37	349 37	S W swell Ice

1774.	Course.	Dift.	Latitude South by		Longitude East by			Remarks.
			Account.	Observat.	Account.	Observat.	No. 1.	
		Miles.						
Feb. 23.	N. 86 E.	107	53 04	Cloudy.	341 31	352 34	352 29½	A Western swell: ice.
24.	N. 80½ E.	101	52 46	52 46½	344 19	355 22	355 43	Ditto.
25.	S. 74½ E.	109.8	53 16	53 16	347 14	358 17	358 38	Ditto.
26.	S. 79½ E.	100	53 35	Cloudy.	349 58	0 03	1 09	Ditto.
Having made a complete revolution round the Globe, Mr. Bayley here rejected 360°, and repeated ½, February 26, to make his day correspond with the day at Greenwich.								
26.	N. 85½ E.	110	53 27	53 27	353 3	3 08	4 09½	Porpoises and ice.
27.	S. 71½ E.	86	53 54	53 53½	355 22	5 27	6 28½	Penguins and ice.
28.	S. 58½ E.	19	54 03	Cloudy.	355 48	5 52½	6 54	Several ice islands.
March 1.	N. 73 E.	67	53 44	Cloudy.	357 36	7 41	9 19	Seals and birds.
2.	S. 75½ E.	79	54 04	54 04½	359 46	9 51	11 28	Ice.
3.	N. 52 E.	76	53 17	53 17½	1 27	11 40	13 20	Whales and porpoises.
4.	N. 8½ W.	36½	52 42	Cloudy.	1 18	11 31	13 11	A Western swell yet.
5.	N. 19½ E.	124	50 45	50 44½	2 26	12 39	14 44	Ship N. E. of acct.
6.	N. 56½ E.	88	49 55	Cloudy.	4 17	14 30	16 35	Many porpoises.
7.	N. 4½ E.	83	48 32	48 32½	4 26	14 01½	16 48	Ice and sea-weed.
8.	N. 15 W.	57	47 36½	47 36½	4 03	13 52	16 40	Some ice islands.
9.	N. 12 E.	119	45 41	Cloudy.	4 39	14 27½	17 12½	
10.	N. 8 E.	148	43 14	43 13½	5 07	14 50	17 35	The Western swell yet.
11.	N. 15 W.	89	43 48	41 48½	4 36	14 19	17 04	
12.	N. 19 E.	33½	41 16	Cloudy.	4 51	14 34	17 33	
13.	N. 19½ E.	84	39 59	39 59	5 23	15 14	18 13	
14.	N. 13½ E.	152	37 32	37 32½	6 07.7	16 04	18 56½	
15.	North.	121	35 32	35 31½	6 07.7	16 47	18 54	
16.	N. 11½ E.	55½	34 37	34 37½	6 21.3	16 51	19 14	Ship N. W. of acct.
17.	N. 63 E.	53	34 13	34 12½	7 19.3	17 42	20 17½	
Cape of Good Hope.			33 55½			18 22½		
April 17.	N. 45 W.	60	33 13	33 12½	17 31	17 31	17 29½	
18.	N. 51½ W.	37	32 49	Cloudy.	16 54	16 54	16 52½	
19.	S. 70½ W.	46	33 4½	33 4½	16 07	16 07	16 12	Log 48 f. to 29½.
20.	N. 3 E.	31	32 34	32 33½	16 09	16 07	16 14	
21.	N. 48½ W.	120	31 13	31 13½	14 22	14 22	14 23	
22.	N. 50½ W.	90	30 16	30 16½	13 02	13 0	13 07	
23.	North.	60	29 15	29 14½	13 02	13 23½	13 08	Drift-wood.
24.	N. 47 W.	133	27 44	27 44½	11 21	11 43	11 27	
25.	N. 51½ W.	146	26 13	26 13½	9 14	9 36	9 17	Ship N. W. of acct
26.	N. 39 W.	97	24 57	24 57½	8 05	8 28	8 04	
27.	N. 44 W.	97	23 48	23 47½	6 49	7 12	6 30	
28.	N. 40½ W.	77	22 49	22 49½	5 56	6 19	5 42	
29.	N. 45 W.	79	21 53	21 53	4 55	5 18	4 17	Many porpoises and birds.
30.	N. 52 W.	51	21 21½	21 21½	4 11½	3 31.2	3 37	A Western swell.
May 1.	N. 46 W.	43	20 51	20 51½	3 38½	2 40½	2 54	
2.	N. 43½ W.	40	20 22	20 22½	3 09	1 57	2 23½	
3.	N. 37 W.	63	19 32	19 32½	2 28	1 13	1 54	
4.	N. 70 W.	16	19 27	19 27½	2 12	0 50	1 42	
5.	N. 50½ W.	63	18 47	18 47½	1 21½	0 0	0 55	Log 48 feet to 29½.

ASTRONOMICAL OBSERVATIONS

1774	Course		Dist Miles	Latitude South b		Longitude East by			Remarks
				Account	Observed	Account	Observed	No. 1	
2 May 6	N	49 W	101	17 41	17 41	0 02 $\frac{1}{2}$ West	1 29	0 3/ Well	
h — 7	N	51 $\frac{1}{2}$ W	84	16 49	16 49 $\frac{1}{2}$	1 05 $\frac{1}{2}$	2 37	1 15	
O — 8	N	44 W	84 $\frac{1}{2}$	15 48	15 48 $\frac{1}{2}$	2 06 $\frac{1}{2}$	3 38	2 49 $\frac{1}{2}$	
h — 9	N	45 W	84	14 49	Cloudy	3 07 $\frac{1}{2}$	4 54	4 05	
h — 10	N	48 $\frac{1}{2}$ W	130	13 23	13 23 $\frac{1}{2}$	4 47 $\frac{1}{2}$	6 34 3	5 12	
h — 11	N	48 $\frac{1}{2}$ W	123	12 02	12 02 $\frac{1}{2}$	6 21 7	8 08 5	7 19	Flying fish and dolphins
h — 12	N	44 W	110	10 43	10 43	7 39 1	9 25 9	8 36	
h — 13	N	46 $\frac{1}{2}$ W	128	9 14	9 14 $\frac{1}{2}$	9 13	10 59	10 06	
h — 14	N	49 $\frac{1}{2}$ W	120	7 55	7 55 $\frac{1}{2}$	10 45	12 17	11 42 7	Log 18 f to 29 f
O — 15	N	49 $\frac{1}{2}$ W	126	6 33	6 33 $\frac{1}{2}$	12 21	14 15	13 11	
h — 16	N	47 $\frac{1}{2}$ W	117	5 14	5 14 $\frac{1}{2}$	13 47 $\frac{1}{2}$	15 46	14 40	
h — 17	N	47 $\frac{1}{2}$ W	110	4 0	4 0 $\frac{1}{2}$	15 07 $\frac{1}{2}$	17 10	16 0	
h — 18	N	44 $\frac{1}{2}$ W	118	2 35	2 35 $\frac{1}{2}$	16 29 $\frac{1}{2}$	19 02	17 37	Ship S 1 of acc
h — 19	N	26 W	108	0 58 North	0 58 $\frac{1}{2}$ North	17 16	19 50	18 44	
h — 20	N	20 W	85	0 21	0 21 $\frac{1}{2}$	17 46	20 35	19 16	
h — 21	N	22 W	68	1 24	1 24 $\frac{1}{2}$	18 12	21 0	20 21	
O — 22	N	19 W	95	2 54	2 54 $\frac{1}{2}$	18 43	21 31	21 17	
h — 23	N	22 W	76 $\frac{1}{2}$	4 05	4 05 $\frac{1}{2}$	19 12	22 0	21 55	Log 48 f to 29'
h — 24	N	27 W	36 $\frac{1}{2}$	4 36	4 36 $\frac{1}{2}$	19 28	22 17	21 59	
h — 25	North		50	5 27	5 27 $\frac{1}{2}$	19 28	22 17	21 50	Ship N of account
h — 26	N	50 W	45	5 56	5 56 $\frac{1}{2}$	20 03	22 52	21 55	Swell from N 1
h — 27	N	84 W	30	5 59	5 59 $\frac{1}{2}$	20 33	24 34	21 59	Ship W of acc
h — 28	N	45 W	31	6 21	6 21 $\frac{1}{2}$	20 54	24 55	22 14	Ship S W of acc
O — 29	N	51 W	26	6 38	6 37 $\frac{1}{2}$	21 15	25 18	22 35	
h — 30	N	80 $\frac{1}{2}$ E	18	6 41	Cloudy	20 57	25 0	22 47	
h — 31	S	75 $\frac{1}{2}$ W	4	6 37	6 36 $\frac{1}{2}$	21 17	25 20	21 24 $\frac{1}{2}$	
h June 1	N	35 L	11	6 48	6 47 $\frac{1}{2}$	21 07	24 57	21 18	
h — 2	N	61 $\frac{1}{2}$ W	39	7 07	7 07 $\frac{1}{2}$	21 44	25 37 $\frac{1}{2}$	21 19	
h — 3	N	85 W	38	7 11	7 11	22 22	25 50	22 07	
h — 4	N	58 $\frac{1}{2}$ W	54	7 39	7 39 $\frac{1}{2}$	23 08	26 45	22 54	
O — 5	N	55 W	34 7	7 59	7 59 $\frac{1}{2}$	23 38	27 15 $\frac{1}{2}$	23 37	
h — 6	N	69 W	41	8 14	8 14	24 17	27 54	24 0	
h — 7	N	43 $\frac{1}{2}$ W	84	9 15	9 14 $\frac{1}{2}$	25 15	28 51	25 08	
h — 8	N	44 W	103	10 29	10 28 $\frac{1}{2}$	26 30	30 06	26 28	Ship N W of acc
h — 9	N	39 $\frac{1}{2}$ W	106	11 51	11 51 $\frac{1}{2}$	27 36	31 12	27 38	Ditto
h — 10	N	42 $\frac{1}{2}$ W	117	13 18	13 18 $\frac{1}{2}$	28 56	32 31	28 59	Log 18 f to 29
h — 11	N	43 W	115	14 42	14 42	30 16	33 51	30 11	
O — 12	N	25 $\frac{1}{2}$ W	112	16 23	16 23 $\frac{1}{2}$	31 05	34 44	31 28	Log 48 f to 28 $\frac{1}{2}$
h — 13	N	25 W	89	17 44	17 44 $\frac{1}{2}$	31 44	35 37	32 21	
h — 14	N	15 W	92	19 13	19 13 $\frac{1}{2}$	32 09	36 16	32 29 $\frac{1}{2}$	
h — 15	N	12 $\frac{1}{2}$ W	98	20 49	20 49 $\frac{1}{2}$	32 30	36 38	33 11	
h — 16	N	21 $\frac{1}{2}$ W	100	22 22	22 21 $\frac{1}{2}$	33 10	37 29	33 56 $\frac{1}{2}$	
h — 17	N	24 $\frac{1}{2}$ W	91	23 45	23 45 $\frac{1}{2}$	33 50 $\frac{1}{2}$	38 23	34 47'	
h — 18	N	12 W	86	25 09	25 09 $\frac{1}{2}$	34 10	39 09	35 09	Sea weed

1774.	Course.	Dist.	Latitude North by		Longitude West by			Remarks.
			Account.	Observat.	Account.	Observat.	No. 1.	
		Miles.						
○ June 19.	N. $7\frac{1}{2}$ W.	85	26 33	26 $33\frac{1}{2}$	34 21	39 11	35 20	Ship N. E. of Acc.
○ — 20.	N. 7 E.	87	28 0	28 $0\frac{1}{2}$	34 11	38 58	35 06	Sea weed.
♂ — 21.	N. 6 E.	78	29 17	29 $17\frac{1}{2}$	34 02	39 24	35 37	Ship N. E. of Acc.
♂ — 22.	N. 8 W.	99	30 55	30 55	34 18	39 36	35 24	
⊥ — 23.	N. $13\frac{1}{2}$ W.	107	32 39	32 $39\frac{1}{2}$	34 46	40 04	35 38	Ship N. of Account.
♀ — 24.	N. $12\frac{1}{2}$ W.	106	24 23	24 $23\frac{1}{2}$	35 10	40 29	36 12	Ship N. E. of Acc.
h — 25.	North.	93	35 56	35 $56\frac{1}{2}$	35 10	40 29	36 $02\frac{1}{2}$	Log 50 feet to 29".
○ — 26.	N. $12\frac{1}{2}$ E.	78	37 12	37 $11\frac{1}{2}$	34 52	40 21	35 54	Log 48 feet to 29".
○ — 27.	N. $50\frac{1}{2}$ E.	54	37 45	37 $45\frac{1}{2}$	34 03	39 32	35 06	Ship S. W. of Acc.
♂ — 28.	N. 70 E.	24	37 53	37 $53\frac{1}{2}$	33 38	40 10	34 18	Ship S. E. of Acc.
♂ — 29.	N. $36\frac{1}{2}$ E.	58	38 40	38 $40\frac{1}{2}$	32 54	39 40	33 36	Ship N. E. of Acc.
⊥ — 30.	N. $50\frac{1}{2}$ E.	52	39 13	39 13	32 02	39 0	32 30	Ship S. W. of Acc.
♀ July 1.	N. $58\frac{1}{2}$ E.	100	40 06	40 $06\frac{1}{2}$	30 11	37 24	30 40	Ship ditto.
h — 2.	N. $53\frac{1}{2}$ E.	75	40 50	40 51	28 42	35 55	29 10	
○ — 3.	N. $40\frac{1}{2}$ E.	51	41 32	41 $32\frac{1}{2}$	27 53	35 02	27 42	
○ — 4.	N. 58 E.	134	42 44	42 44	25 19	32 $32\frac{1}{2}$	25 $06\frac{1}{2}$	
♂ — 5.	N. $53\frac{1}{2}$ E.	135	44 01	44 01	22 43	29 $56\frac{1}{2}$	22 39	Log 48 feet to 29".
♂ — 6.	N. $47\frac{1}{2}$ E.	153	45 45	45 45	20 04	27 18	19 50	A W.S.W. swell.
⊥ — 7.	N. $58\frac{1}{2}$ E.	161	47 10	47 10	16 44	23 58	16 27	Ditto.
♀ — 8.	N. $67\frac{1}{2}$ E.	141	48 05	48 $05\frac{1}{2}$	13 27	20 41	13 24	Ditto.
h — 9.	N. $61\frac{1}{2}$ W.	144	49 09	49 09	10 05	17 19	10 $07\frac{1}{2}$	
○ — 10.	N. $84\frac{1}{2}$ E.	134	49 22	49 $21\frac{1}{2}$	6 41	13 55	6 41	
○ — 11.	N. $86\frac{1}{2}$ E.	94	49 27	49 $27\frac{1}{2}$	4 17	11 31	4 07	Had soundings 80 fathom.
♂ — 12.	N. $86\frac{1}{2}$ E.	137	49 35	49 $35\frac{1}{2}$	0 47.7 East.	8 01	0 05 East.	Log 48 feet to 29".
♀ — 13.	N. 79 E.	164	50 06	50 $06\frac{1}{2}$	1 53	5 20	2 50	Ram Head N. W. about 6 leagues.

* * In the preceding Journal, the Course and Distance, put down in the second and third columns, are those made good for the whole day; after variation of the compass, lee way, heave of the sea, currents, &c. are allowed for, in the judgment of the navigator. The fourth and sixth columns contain the Latitude and Longitude of the Ship deduced from that course and distance on the noon of the day mentioned in the first column, being the noon of the civil day, or that where the nautical day ends, and the astronomical one begins. The fourth column contains the Latitude observed at the same noon, and the seventh contains the Longitude of the Ship as carried on from the last lunar observation by means of the Log, or deal reckoning, as it is usually called. It would, perhaps, in general, have been better to have carried it on by the Watch (No. 1.) but it may yet be done, by any person who wishes to have the Longitude of a particular place more correct, or corroborated by a greater number of observations, as the apparent times of most of the lunar observations were deduced from altitudes taken for the Watch. And it may here be observed, that the Longitude of any place, obtained by reducing a number of observations to that place by means of the Watch, will gene-

rally be had pretty true, notwithstanding that the rate which the Watch was then going it may differ something from that made use of; nay even if the rate of the Watch's going alter in that time, provided that all the observations made in an equal extent of time before and after making that land be used, and reduced separately thereto and the mean of the two Longitudes thus obtained be made use of; as it may reasonably be presumed, that although the Watch's motion be not quite uniform, the acceleration or retardation of that motion will be nearly so, and of course cause no material error in a fortnight, during which interval several observations were generally got, at least when they were near any lands, or where the exact situation of the Ship was of any consequence. The two last columns contain the Longitude of the Ship as deduced from the two Watches, No 1 and 2 so long as No 2 went with any tolerable degree of regularity afterwards, the last column is discontinued

METEOROLOGICAL OBSERVATIONS,

MADE

On Board His MAJESTY'S Sloop ADVENTURE,

In her late Voyage on DISCOVERIES towards the SOUTH.

By Mr. WILLIAM BAYLEY.

1772.		Morn.	Noon.				Even.	Winds.	Weather, &c.
		Ther- mo- meter.	Latitude North.	Longitude West of Greenwich.	Baro- meter.	Ther- mo- meter.	Ther- mo- meter.		
2	July 17.	67	46 26	7 41 $\frac{1}{2}$	29,9	68	66	N. W.	Brisk wind and clear weather.
5	18.	68	46 46	8 2	29,87	69	65	S. W. by W.	Ditto, squally.
10	19.	65	45 20	8 46	29,9	64	65	N. W.	Moderate wind, and cloudy.
15	20.	65 $\frac{1}{2}$	43 56	8 55	30,0	67	64 $\frac{1}{2}$	W. N. W.	Brisk wind, with rain.
20	21.	63	43 29 $\frac{1}{2}$	9 10	29,9	67	65	{ West. E. S. E. }	Hazy weather.
25	22.	65	43 37 $\frac{1}{2}$	9 32	30,0	66	65	N. W.	Moderate wind, and cloudy.
30	23.	67	42 16	11 28	30,08	68	66	North.	Brisk wind, and fine weather.
35	24.	66	40 3 $\frac{1}{2}$	11 55	30,03	67	67	N. E.	Ditto.
40	25.	68	37 40 $\frac{1}{2}$	13 33	30,15	70	68	Ditto.	Ditto, cloudy.
45	26.	70	35 31 $\frac{1}{2}$	14 54	30,05	72	69	Ditto.	Moderate wind, ditto.
50	27.	69 $\frac{1}{2}$	33 43	15 38	29,9	72 $\frac{1}{2}$	71	Ditto.	Ditto.
55	28.	72	32 48	16 55	30,01	74 $\frac{1}{2}$	73	North.	Ditto, fine weather.
60	29.	72	At Madeira.		29,88	75	73		Brisk wind, and squally.
65	30.	73			30,1	76	74	Variable.	Gentle breezes, with rain.
70	31.	74	32 33 $\frac{1}{2}$	17 5	30,26	75 $\frac{1}{2}$	74		Ditto.
75	Aug. 1.	73			29,92	76	75		Ditto.
80	2.	71	32 0 $\frac{1}{2}$	16 29	29,69	73	72 $\frac{1}{2}$	East.	Brisk wind, and squally weather.
85	3.	72	29 43 $\frac{1}{2}$	16 52	29,8	73	72 $\frac{1}{2}$	N. E.	Ditto, and fine weather.
90	4.	74	28 40 $\frac{1}{2}$	18 3	29,77	73	73	N. E. by E.	Ditto, and cloudy.
95	5.	73	27 53 $\frac{1}{2}$	18 26	29,87	73	72	{ N. E. S. W. }	Moderate wind, and ditto.
100	6.	73	26 6 $\frac{1}{2}$	19 2	30,0	73	72	E. by N.	Ditto.
105	7.	76	24 9	19 27	30,05	75	73	Ditto.	Ditto.
110	8.	74	22 10 $\frac{1}{2}$	19 56	29,95	76	73	E. by S.	Brisk wind, ditto.
115	9.	74	20 8 $\frac{1}{2}$	20 50 $\frac{1}{2}$	29,6	75 $\frac{1}{2}$	74 $\frac{1}{2}$	N. N. E.	Moderate wind, and fine weath.
120	10.	74	18 10	22 11	30,0	77	77	Ditto.	Brisk wind, and cloudy.
125	11.	78 $\frac{1}{2}$	16 12	22 50	30,0	83	78	Ditto.	Ditto.
130	12.	77	15 07	23 25	29,85	79	78	Ditto.	Moderate wind, ditto.
135	13.	78	14 54	23 29	29,9	78 $\frac{1}{2}$	79	Ditto.	Brisk wind, with rain.
140	14.	79	14 54	23 29	30,0	81 $\frac{1}{2}$	78 $\frac{1}{2}$	Ditto.	Cloudy, with drizzling rain.
145	15.	79 $\frac{1}{2}$	13 48	22 48	30,0	81	79	Ditto.	Ditto.
150	16.	78 $\frac{1}{2}$	12 22	22 30	29,9	80	78	East.	Little wind, and cloudy.
155	17.	78 $\frac{1}{2}$	11 50	21 57	29,95	81	80		Ditto, and drizzling rain.
160	18.	77	11 25 $\frac{1}{2}$	21 21 $\frac{1}{2}$	29,95	81	77	S. W.	Ditto, cloudy.
165	19.	79	10 47	20 52	30,0	77	77 $\frac{1}{2}$	S. W. by W.	Ditto, heavy rain.
170	20.	76	9 34	20 41	29,95	78 $\frac{1}{2}$	77 $\frac{1}{2}$	N. W. by N.	Ditto.
175	21.	79	8 41 $\frac{1}{2}$	20 6	29,9	78 $\frac{1}{2}$	77 $\frac{1}{2}$	{ East. S. W. }	Squally, with rain.
180	22.	79	7 55	19 16	29,9	79	79	Ditto.	Brisk wind, and cloudy.
185	23.	80 $\frac{1}{2}$	6 53 $\frac{1}{2}$	18 24	30,05	80	78	Ditto.	Ditto.
190	24.	79	6 24 $\frac{1}{2}$	17 18	29,9	79	78	S. by W.	Moderate wind, and cloudy.
195	25.	78 $\frac{1}{2}$	5 53 $\frac{1}{2}$	16 32	29,95	79 $\frac{1}{2}$	79	S. W. by S.	Ditto, and fine weather.
200	26.	78 $\frac{1}{2}$	5 10	15 37	29,95	78 $\frac{1}{2}$	78	S. W.	Ditto, with rain.
205	27.	78	4 13 $\frac{1}{2}$	14 48	29,9	78 $\frac{1}{2}$	78	S. W. by S.	Brisk wind, and cloudy.

1772.		Morn.		Noon.				Even.	Winds.	Weather, &c.
		Ther- mo- meter.	Latitude South.	Longitude West of Green- wich.	Baromet.	Thermom.	Ther- mo- meter.			
○	Oct. 4.	64	28 59	13 46	30,1	64	57	S. W.	Squally, with drizzling rain.	
○	— 5.	56	29 0	12 21	30,05	60½	56	South.	Brisk wind and cloudy.	
○	— 6.	59	29 42½	12 28	29,95	61	58	S. E.	Ditto, and fine weather.	
○	— 7.	59	31 18	12 28	30,1	59	57	E. S. E.	Squally weather.	
○	— 8.	58	32 42½	12 11	30,0	59	58½	East.		
○	— 9.	59	33 52½	10 56	30,15	59½	57	E. N. E.	Moderate wind, and cloudy.	
○	— 10.	59	34 28	9 13	30,35	65	58	N. E.	Squally weather.	
○	— 11.	57	34 41	6 50	30,3	59	59	N. N. E.	Little wind, and fine weather.	
○	— 12.	57	34 49	6 04	30,1	65	58	North.		
○	— 13.	58	35 09	6 0	30,15	65	56	N. E.	Squally, with rain.	
○	— 14.	57	35 29	4 04	30,25	60	58	N. E.		
○	— 15.	58	35 33	1 51	30,0	63½	57	N. E. by N.	Brisk wind, and cloudy.	
				East.						
○	— 16.	59	35 14	1 07	29,95	62½	57	North.	Brisk wind, and cloudy.	
○	— 17.	56	34 57	4 49	30,05	58	54	West.		
○	— 18.	53	34 33	7 35	30,1	57	53½	S. W.	Brisk wind, and drizzling rain.	
○	— 19.	54	34 21	8 35	30,0	56	53	S. S. E.		
○	— 20.	56	34 45	8 07½	30,2	60	54	East.	Little wind, and fine weather.	
○	— 21.	57	35 31½	8 37	30,2	59	55	East.		
○	— 22.	56	36 48	9 06	29,85	59	57½	East.	Brisk wind, and cloudy.	
○	— 23.	57	37 09.	9 45	29,95	59	57	N. E. by E.		
○	— 24.	54	36 39.	11 43½	30,1	57	57½	West.	Brisk wind, and cloudy.	
○	— 25.	54½	35 26	14 08	30,25	56½	57	S. S. E.		
○	— 26.	57	34 43	15 37	30,05	58½	56½	S. S. E.	Moderate wind, and cloudy.	
○	— 27.	57	33 47	16 50	30,0	61	60	S. S. E.	Ditto, fair weather.	
○	— 28.	60	33 38	17 49	30,0	62½	59½	S. W.	Ditto.	
○	— 29.	60	33 51	19 9	29,85	60½	58	N. W.	Ditto.	
○	— 30.	56	In Table Bay, at the Cape of Good Hope, Lat. 33° 55½ S. Long. 18° 23½ E.							
○	Nov. 22.		33 55	18 23		60		N. by W.	Brisk wind, and fine weather.	
○	— 23.		34 34	17 42		65		N. W.	Strong gales, and flying clouds.	
○	— 24.		35 20	17 51		63½		S. E.	Ditto.	
○	— 25.		37 14	16 53	30,0	63	62½	S. E. ½ E.	Ditto.	
○	— 26.	62	39 0	15 48	29,9	69	60	N. E.	Brisk wind, ditto.	
○	— 27.	51	40 01	16 40	29,95	52	53	W. by S.	Strong wind, ditto.	
○	— 28.	53	40 55	16 36	29,8	59	52	N. N. W.	More moderate, and cloudy.	
○	— 29.	52	42 03	16 35	30,0	52½	53	N. W.	Strong wind, with rain.	
○	— 30.	52	42 26	17 43	29,8	55	52	Ditto.		
The water in Dr. Lind's wind-gage sunk 6-10ths of an inch in the squalls, and 0,35 in the intervals between them.										
○	Dec. 1.	51½	43 14	17 53	29,9	51	46	W. N. W.	Strong wind, with rain.	
○	— 2.	47		18 36	29,5	49	47	Ditto.		
○	— 3.	47	44 27	18 32	29,4	48	46	N. W.	Strong wind, and fine weather.	
○	— 4.	44	45 23½	18 02	29,5	45	42	W. N. W.	Gentle gales, and fine weather.	
○	— 5.	44	47 09	17 31	29,75	46	40	N. by W.	Ditto, and cloudy.	

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1772		Morn		Noon				Even		Wind	Weather &c
		Ther mo meter	Latitude South	Longitude East of Green wich	Baro meter	Ther mo meter	Ther mo meter	Ther mo meter	Ther mo meter		
O	Dec 6	36	48 23	17 34	29,95	36	35	35	35	W S W	Gentle gales, and fine weather
D	7	38	49 49	17 04	29,7	42	38	38	38	North	Strong gales, with rain
S	8	38		17 54	29,8	39	36	36	36	N W by N	Ditto, cloudy
S	9	33	49 46	18 12	29,35	34	35	35	35	N W by W	Brisk wind, with snow
U	10	31	51 04	18 40	29,55	35	34	34	34	N by W	Little wind, with snow
S	11	31	51 50	18 40	29,35	32	33	33	33	N N W	Ditto, cloudy
S	12	32	Cloudy	19 0	29,3	34	32	32	32	W by N	Ditto and much snow
O	13	30	Cloudy	20 12	28,85	31	30	30	30	W N W	
D	14	30	54 53	22 04	28,55	32	30	30	30	N by E	Light airs, and fair weather
S	15	28	55 02	22 30	28,55	31	30	30	30	Ditto	Light airs, and foggy, with snow
S	16	31	55 0	22 22	28,55	31	31	31	31	W N W	
U	17	31	55 21	23 30	28,65	31	30	30	30	N W	Light wind, with snow
S	18	31	54 59	24 40	28,7	31	30	30	30	N N W	
S	19	30	54 34	25 10	28,55	31	31	31	31	N W and N N E	Strong wind, with snow
O	20	32	54 11	27 27	28,55	34	31	31	31	N N W	
D	21	32	54 07	28 27	28,6	34	31	31	31	W N W	Little wind, and flying clouds
S	22	32	54 52	29 01	28,6	31	32	32	32	Ditto	
U	23	32	55 24	30 12	29,15	31	33	33	33	N W by W	
U	24	32	56 29	30 02	29,35	34	32	32	32	E N E	Brisk wind and cloudy
S	25	31	57 54	29 06	29,1	31	31	31	31	South	
S	26	31	58 30	26 22	29,35	32	31	31	31	Ditto	Little wind and cloudy
O	27	32	58 21	24 06	29,5	35	32	32	32	N W by W	Little wind and fair weather
Let down a Thermometer 160 fathoms below the surface of the sea it lay at that depth 25 minutes, and was seven minutes drawing up, when it was found to stand at 33 the same thermometer stood at 32 in the water at the surface, and at 31, in the open air											
D	28	30	58 33	22 11	29,55	31	31	31	31	E by N	Brisk wind, with snow
S	29	31	59 11	19 57	29,1	33	31	31	31	East	Little wind, with snow
U	30	32	59 22	18 25	28,9	34	32	32	32	E S E	Ditto, with rain
U	31	30	59 55	15 45	28,95	33	32	32	32	S E	Strong wind, and cloudy
1773											
S	Jan 1	32	60 0	13 0	28,8	31	32	32	32	S S W	Brisk wind, with snow
S	2	31	59 21	10 06	29,45	32	31	31	31	W by N	Ditto, and fair weather
O	3	31	59 23	11 24	29,3	32	31	31	31	E N E	
D	4	32	59 01	14 14	29,4	33	33	33	33	N N W	Strong wind, with snow
S	5	33	59 37	19 04	29,35	33	33	33	33	Ditto	
U	6	33	59 59	23 08	29,15	33	33	33	33	N W by W	Moderate wind and cloudy
U	7	32	60 36	27 1	29,05	34	32	32	32	W N W	
S	8	32	61 20	31 20	28,95	34	33	33	33	Ditto	Ditto, and thick snow
S	9	32	61 36	33 26	28,95	35	33	33	33	Ditto	
O	10	32	61 57	34 30	29,2	34	33	33	33	N by W	Moderate wind, and fair weather
D	11	32	63 19	35 46	29,2	34	33	33	33	North	
S	12	33	64 14	37 0	29,35	35	32	32	32	S S E	
U	13	34	64 14	39 43	29,4	40	33	33	33	S S W	
U	14	32	63 57	40 03	29,25	35	33	33	33	S S E	

1773.		Morn.		Noon.			Even.	Winds.	Weather, &c.
		Ther- mo- meter.	Latitude South.	Longitude East of Green- wich.	Baromet- er.	Ther- mo- meter.			
2	Jan. 15.	34	63 35	40 03	29.05	37	33	S. E.	
5	16.	34	64 32	39 53	28.9	35	34	Ditto.	Brisk wind, with snow and sleet.
0	17.	32	66 34	40 02	28.95	32½	33	S. E. by E.	
3	18.	33	65 58	40 02	28.9	34	33	S. W. by S.	
8	19.	33	64 29½	40 58½	29.1	35	33	S. E. by E.	Moderate wind, and cloudy.
8	20.	34	63 59	40 41	28.8	33	32½	Ditto.	Strong wind, with snow.
2	21.	33½	62 45	43 14	28.7	33½	34½	S. S. E.	Little wind, ditto.
2	22.	34	61 33	45 29	29.3	34½	35	South.	Ditto, and cloudy.
5	23.	34	60 02	48 36	29.15	35	34½	S. by E.	Strong wind, with snow and sleet.
0	24.	34	58 24	51 47	29.3	35	33	N. W.	
3	25.	34	58 08	52 0	29.15	35	34	E. N. E.	Strong wind, and foggy.
8	26.	34	57 22	53 57	29.3	34½	34½		Calm, with thick snow.
8	27.	33½	56 30	52 03	29.1	35	33	S. W. by W.	Gentle gales, and fair weather.
2	28.	33	54 32	53 09	28.1	36	33½	N. N. W.	Brisk wind, and flying clouds.
2	29.	34	52 28	54 12	29.0	37	34	N. by W.	Ditto, and cloudy.
5	30.	39	51 31	55 22	29.5	40	39	N. N. W.	Strong wind, with much rain.
0	31.	38	50 48	56 11	29.55	39	38	Ditto.	Brisk wind, with flying clouds.
3	Feb. 1.	41	48 32	59 03	30.05	42½	47	N. by W.	
8	2.	44	48 45	59 19	30.15	44	44	N. W.	Little wind, with drizzling rain.
8	3.	44	49 15	59 19	30.15	44	43	N. N. W.	Strong wind, with heavy rain.
2	4.	43	49 04	57 39	29.5	43½	43½	N. W.	Light winds, with cloudy weather.
2	5.	40	48 0	60 14	29.5	41½	40½	N. N. E.	Brisk wind, and fair weather.
5	6.	42	48 53	60 22	29.6	45	43	N. N. W.	Ditto, with slight showers.
0	7.	43	50 14	63 06	29.8	44	42½	N. W.	Light winds, and fair weather.
3	8.	44	50 14	65 11	29.5	43	43	N. E.	Ditto, thick fog and rain.
8	9.	43	50 17	65 27	28.7	43	41	N. N. E.	Strong winds, and much rain.
8	10.	39	49 54	66 0	29.4	40	40	N. W. by W.	Ditto, and fair weather.
2	11.	40	50 18	66 11	29.9	42	40	N. N. W.	Ditto, and foggy.
2	12.	38	50 41	69 06	29.5	40	37	Ditto.	Moderate, and cloudy.
5	13.	37	51 05	72 11	29.6	39	39	N. W.	
0	14.	38	51 39½	75 30	29.5	39½	38	Ditto.	
3	15.	37	52 13	79 18	29.6	38	39	S. W. by W.	
8	16.	36	52 32	81 22	29.6	37½	37	W. N. W.	Strong wind, with rain.
8	17.	36	52 54	85 10	29.5	37	37	Ditto.	
2	18.	37	52 52	88 52	29.55	40	37	W. by N.	
2	19.	36	52 38	92 0	28.85	38	38	S. W.	
5	20.	36	62 16	96 56	29.05	36	37	W. N. W.	Brisk wind, with snow.
0	21.	40	52 15	99 54	29.6	41	38	S. W.	Little wind, and fair weather.
3	22.	39	52 29	102 49	29.0	38	40	E. N. E.	Brisk wind, and rainy weather.
8	23.	39	52 17	104 16	28.5	41½	39	N. W. by N.	Ditto, and squally.
8	24.	40	52 07	106 49	28.5	43	41	N. W.	Gentle breezes, and fair weather.
2	25.	41	51 41	110 30	29.45	45	40	W. N. W.	Brisk wind, and flying clouds.

This evening we saw the Southern lights for the first time: they were so bright that large print might have been read by their light.

METEOROLOGICAL OBSERVATIONS

1773	Morn	Noon				Even	Winds	Weather &
		Latitude South	Longitude East of Greenwich	Barometer	Thermom			
Feb 26	43	51 18	114 02	29 95	44	44	North	Brisk wind and hazy
Feb 27	45	50 47	117 59	29,45	43	45	N N W	Ditto and drizzling rain
Feb 28	43	50 24	122 30	29,45	43½	44	W N W	Ditto, and flying cloud
March 1	47	49 02	126 0	29,65	49½	46	N N W	Ditto, in squalls
March 2	52	47 29	129 0	29 75	52	52	N W	Ditto, with thick drizzling weather
March 3	53	46 18	130 15	29,65	53	52	N N W	Brisk wind, and flying clouds
March 4	49	44 48	132 15	29,5	51	51	S W	Ditto and fair weather
March 5	52	44 3	134 40	29,75	56	52	West	Brisk wind, and squally weather
March 6	53	43 57	138 0	29 6	52	51	W S W	Ditto
March 7	51½	43 46	141 40	29,75	52½	55	W by N	Brisk wind, and fine weather
March 8	54½	43 41	144 06	29,9	55	52	West	Moderate wind, and fine weather
March 9	55	43 46	145 37	30,0	57	54	N N W	Strong wind, and drizzling rain
March 10	57	43 40	147 20	29,55	54	53	W S W	Ditto
March 11	56	43 23	147 30	29,95	57	52	W N W	Brisk wind, and fine weather
March 12	57	In Adventure's Bay, at Van Diemen's Land				58	N by W	Little wind and fine weather
March 13	55½					57	W by S	
March 14	57					57	S S L	
March 15	56	43 23	147 30	29 5	56	51	Ditto	Brisk wind with rain
March 16	52	43 00	147 40	29,65	55	53	W by S	Brisk wind and cloudy
March 17	53	41 44	148 11½	29,8	54½	52	W by N	Brisk wind and drizzling rain
March 18	53	40 22	148 08	29,95	54½	52	S S W	Moderate wind and fine weather
March 19	57	39 21	148 33	30,05	59	54	S S E	Moderate wind, and cloudy
March 20	60	39 22	150 13	30,01	61	56	South	Strong wind with rain
March 21	58	39 16	151 43	30,15	59½	57	S by L	Brisk wind and cloudy
March 22	57	39 28	150 58	30 05	53	57	South	Brisk wind, and squally
March 23	55	39 08	154 25	30,05	54	54	Ditto	Brisk wind and fine weather
March 24	57	38 58	155 27	30,05	58	53	Ditto	
March 25	57	39 21	157 37	30,2	60	60	Ditto	
March 26	61	40 06	159 44	30,25	61	59	Ditto	
March 27	61½	40 14½	161 06	30,1	61	60	S W	
March 28	62	40 16	161 36	30,4	64	61	S W	
Let down a thermometer to the depth of 140 fathoms and on drawing it up found it stand at 56°; it stood at 64° in the open air, and at 59° in the water at the surface								
March 29	61	40 42	163 07	30,5	64	62	North	Brisk wind and fine weather
March 30	62	41 14	164 49	30,45	64	64	N by E	Ditto
March 31	64	41 33	166 47	30,35	64½	62	North	Brisk wind, and much rain
April 1	63	41 31	168 35	30,05	63	62	N N W	Moderate wind, and fine weather
April 2	62	41 17	170 45	29,7	62	61	N by W	
April 3	62	40 40	171 45	29,6	62	60	N N W	
April 4	63	40 16		29 65	66	62	East	
April 5	63	40 53		29 8	61	61	S W by S	
April 6	63	41 04	173 56	30 15	61	57	N W	

1773.	Morn. Ther- mo- meter.	Noon.				Even. Ther- mo- meter.	Winds.	Weather, &c.
		Latitude South.	Longitude East of Green- wich.	Baro- meter.	Ther- mom.			
April 7.	54	41° 05' 47" In Q. Charlotte's Sound.	173° 56'	30,4	58	56	South.	
8.	52			30,1	58	55		Moderate wind, and fair wea- ther.
9.	54			29,8	61	55		
10.	54			29,85	56	66		
11.	52½			30,1	56½	63	South.	Brisk wind, and flying clouds.
12.	54			30,1	62	56	N. N. W.	Ditto, and fair weather.
13.	57			30,14	58½	54	N. by W.	Moderate wind, and fair wea- ther.
14.	53			30,0	59	56	Ditto.	
15.	52			29,92	57	54	S. by W.	Strong wind, and cloudy.
16.	56			30,03	53	54	S. S. W.	Little wind, and fair weather.
17.							Ditto.	Strong wind, and ditto.
18.							Ditto.	Ditto, and rain.
19.							Ditto.	Ditto, and cloudy.
20.							Ditto.	Ditto, and fair weather.
21.	53			29,77	59	59	S. W. by S.	Moderate wind, and ditto.
22.	53			29,55	53½	52½	W. S. W.	Brisk wind, with rain.
23.	51			29,64	51	51	Ditto.	
24.	49½			29,82	54	50	Ditto.	
25.	57½			29,9	58	57	West.	Moderate wind, and fine wea- ther.
26.	58			29,92	58½	56	N. E.	
27.	44			30,04	57½	54	S. S. W.	
28.	51			30,0	56	54½	Ditto.	
29.	49½			30,14	54	50	Ditto.	Moderate wind, and fair wea- ther.
30.	50½			30,24	54	51½	Ditto.	
May 1.	56			30,36	59	54½	N. by E.	
2.	49			30,33	54½	55	S. S. W.	
3.	47			30,27	57	45½	N. N. E.	Moderate wind, with rain at times.
4.	53½			29,96	59	49	W. by N.	Ditto, and fair weather.
5.	57			29,7	57	53	Ditto.	Strong wind, with rain.
6.	48			30,27	54	56	S. W. by S.	Scarce any wind, and very fine.
7.	51½			30,31	59	56	N. W.	
8.	52½			30,06	57½	56½	W. by N.	Brisk wind, and fine weather.
9.	57½			30,03	58½	54	S. S. W.	
10.	56			29,81	58½	56½	S. W. by W.	
11.	47			30,01	48	47	S. S. W.	
12.	54½			30,28	52½	49	W. N. W.	Gentle breezes, and very fine weather.
13.	45			30,15	52	49	S. S. W.	
14.	48			30,32	51½	52	N. E.	
15.	47			30,24	58	57	N. by W.	Strong wind, and flying clouds.
16.	57			29,75	58½	48	Ditto.	Ditto, with rain.
17.	51			29,63	46½	43	W. S. W.	Ditto, with heavy showers.
18.	52			29,5	58	47½	S. S. W.	Gentle breezes, and fine wea- ther.
19.	40			29,7	51½	48	Ditto.	
20.	50			30,02	56	45	East.	

1773	Morn Ther- mo- meter	Noon				Even Ther- mo- meter	Wind	Weather, &c
		Latitude South,	Longitude East of Green- wich	Baro- meter	Ther- mo- meter			
May 21	54			30,02	57	44	East	
22	49			29,86	49	47	N N E	Gentle breezes, and fine weather
23	48			30,25	49	50	S W by W	
24	49			30,2	54	49	S S W	
25	49			30,1	57½	48	N by E.	Brisk wind, and thick, with rain
26	49½			29,6	57½	47	E by N	Strong wind, and ditto
27	47			29,65	57	49	N W	Brisk wind, with rain
28	49			29,66	58	48½	N E	
29	48			29,75	58	49	Ditto	Moderate wind, with flying clouds
30	59½			29,81	59½	52	West	
31	57			30,1	49½	51	S S W	Ditto, with drizzling rain
June 1	56			30,3	56	50	Ditto	
2	52			30,19	58	56	Ditto	Ditto, and fair weather
3	53			30,3	58	51	S W	
4	54			30,41	59½	49	S S W	Brisk wind, and cloudy
5	57			30,41	49½	47	Ditto	Strong wind, with rain
6	52			30,3	56	47	Ditto	
7	49½	41 3½	174 04	30,05	56	48	Ditto	Brisk wind, and fair weather
8	49½	41 53½	174 48	29,7	51½	47½	N W	Gentle gales, and ditto
9	55	42 50	176 48	29,55	52½	48	Ditto	Gentle gales, and flying clouds
10	53	43 57	179 26	29,5	57	47	N N W	
11	52	44 45	181 06	29,7	57	48	N by W	Brisk wind, with thick weather
12	51½	45 45	183 49	29,6	54	47	N N W	Little wind, and hazy
13	50	46 29	184 0	29,85	52	49	E S E	Brisk wind, and cloudy
14	49	46 43½	185 14	29,6	48½	48	W S W	Little wind, and hazy
15	54	46 45½	186 07	29,75	49	47	N E. by E	
16	48	47 23	186 32	30,0	50	49	F by S	Brisk wind, with rain
17	48	46 21	186 32	29,8	49	47½	E S E	Brisk wind, and hazy
18	49	45 50	188 44	29,95	49	47	S S E	
19	47½	45 12	190 46	30,1	50	47½	W S W	Brisk wind, and flying clouds
20	48	44 30	193 27	30,2	49	49	S E	
21	50	44 17	194 52	30,15	51½	50	W S W	Little wind, and cloudy
22	51	44 32	190 32	30,15	52	49	W by S	
23	49	44 37	197 32	30,0	50	48½	N W by N	
24	47	43 42	197 37	29,7	52½	49	East	Strong wind with rain
25	54	43 13	197 12	29,5	54	49	E by N	
26	52	43 5	196 37	29,3	55	48	N E by N	Brisk wind, and cloudy
27	52	42 23	196 37	29,35	53	51	S E by E	Ditto, with drizzling rain
28	52	42 24	197 44	29,35	53	50	West	Light airs, and foggy at times
29	53	42 46	199 0	29,35	53	52	N E	Ditto, and fair weather
30	51	43 0	200 25	29,45	52	50	South	Brisk wind, and squally
July 1	49	43 06	202 19	29,65	50	50	S by E	Gentle breezes, and hazy
2	49	42 59	203 40	29,75	51	50	S S E	Ditto, and fair weather
3	48	43 13	205 03	29 8	53½	41	N N W	Brisk wind, and flying clouds

1773.		Morn.		Noon.			Even.		Wind.	Weather, &c.
		Ther- mo- meter.	Latitude South.	Longitude East of Green- wich.	Baro- meter.	Ther- mo- meter.	Ther- mo- meter.			
July	4.	49	43 57	205 52	29.9	50 $\frac{1}{2}$	48 $\frac{1}{2}$	48 $\frac{1}{2}$	E. by S.	Brisk wind, and flying clouds.
	5.	49	43 24	208 09	29.95	47 $\frac{1}{2}$	47	47		Strong wind, and squally, with rain.
	6.	52	42 05	208 43	29.75	52 $\frac{1}{2}$	49	49		Brisk wind, and flying clouds.
	7.	52	41 18 $\frac{1}{2}$	209 05	29.5	53 $\frac{1}{2}$	49 $\frac{1}{2}$	49 $\frac{1}{2}$		Little wind, and fair weather.
	8.	52	41 59	210 49	29.5	51 $\frac{1}{2}$	48 $\frac{1}{2}$	48 $\frac{1}{2}$	West.	Fresh gales, and squally.
	9.	52 $\frac{1}{2}$	42 38	212 33	29.9	51 $\frac{1}{2}$	52 $\frac{1}{2}$	52 $\frac{1}{2}$	W. S. W.	Gentle gales, and flying clouds.
	10.	53 $\frac{1}{2}$	43 38	215 43	30.0	51 $\frac{1}{2}$	51 $\frac{1}{2}$	51 $\frac{1}{2}$		Brisk wind, and squally.
	11.	46	43 30	217 33	30.15	47	46	46	S. by W.	Gentle gales, and flying clouds.
	12.	47	43 13 $\frac{1}{2}$	219 19	30.3	51 $\frac{1}{2}$	49	49	S. S. W.	
	13.	55	42 57 $\frac{1}{2}$	220 20	30.35	52	48 $\frac{1}{2}$	48 $\frac{1}{2}$	West.	Little wind, and fair weather.
	14.	49	42 50	221 32	30.05	50 $\frac{1}{2}$	47 $\frac{1}{2}$	47 $\frac{1}{2}$	N. E.	Brisk wind, and cloudy.
	15.	50	42 30	221 23	29.1	52	47 $\frac{1}{2}$	47 $\frac{1}{2}$	E. N. E.	Strong wind, with drizzling rain.
	16.	48	41 23	223 0 $\frac{1}{2}$	29.4	50 $\frac{1}{2}$	47 $\frac{1}{2}$	47 $\frac{1}{2}$	S. S. W.	Brisk wind, with hail and rain.
	17.	45	39 42 $\frac{1}{2}$	225 04	29.8	44	46	46	S. W. by S.	
	18.	46	37 51 $\frac{1}{2}$	225 29	30.25	50 $\frac{1}{2}$	47	47	S. W.	Gentle gales, and fair weather.
	19.	53	36 30	225 39	30.2	54 $\frac{1}{2}$	54	54	S. S. W.	
	20.	54	35 19	225 36	30.15	55	53	53	S. E.	Brisk wind, and flying clouds.
	21.	58	32 45	224 36	29.6	59	57	57	East.	Strong wind, with rain.
	22.	62	31 03	224 36	29.75	64	63	63	S. S. W.	Brisk wind, with showers.
	23.	62	29 21	224 13	29.9	64	64	64	N. W. by N.	Moderate wind, with drizz. rain.
	24.	64	29 43	222 49	29.9	65	65	65	N. N. W.	Strong wind, and much rain.
	25.	66	29 46	223 05	29.65	64	66	66	N. W.	Brisk wind, ditto.
	26.	66	28 53	225 14	30.0	68	67	67	N. W. by W.	Moderate wind, and fair weath.
	27.	67	27 55	225 14	30.0	69	67	67	W. S. W.	Little wind, and ditto.
	28.	67	27 42	224 40	30.1	69	68	68	N. by W.	
	29.	67 $\frac{1}{2}$	27 31	223 50	30.0	70	69	69	N. W.	Little wind, and fair; rain in the night.
	30.	69	27 03 $\frac{1}{2}$	224 44	30.0	71	68	68	N. N. W.	
	31.	69	26 19 $\frac{1}{2}$	225 09	29.75	67	67	67	W. by N.	Brisk wind, with showers.
Aug.	1	68	25 11	225 57	29.8	67	66	66	W. N. W.	
	2	67	23 14	226 11	30.05	70	68	68	W. by S.	Moderate W. with flying clouds.
	3	71	22 11	226 59	30.15	72	67	67	West.	Little wind, and fine weather.
	4	72	21 22	227 10	30.05	75	75	75	Ditto.	
	5	73	20 39	227 50 $\frac{1}{2}$	30.15	77	77	77	N. W.	Little wind, and cloudy.
	6	76	19 46	228 35	30.05	77	78	78	West.	
	7.	78	18 52	227 21	30.15	71	76	76	E. S. E.	Brisk wind, and cloudy.
	8.	76	18 04	224 47	30.05	76	75	75	Ditto.	
	9.	75	17 41	222 36	30.75	75	74	74	E. by S.	Gentle gales, and flying clouds.
	10.	75 $\frac{1}{2}$	17 23	220 33	30.25	78 $\frac{1}{2}$	75	75	Ditto.	
	11.	77 $\frac{1}{2}$	17 16 $\frac{1}{2}$	218 29	30.1	79	76	76	East.	Gentle gales, and hazy.
	12.	77	17 10	216 10	30.0	79 $\frac{1}{2}$	77	77	E. by S.	
	13.	78 $\frac{1}{2}$	17 15	215 11	30.1	80	78	78	Ditto.	Little wind, and fair weather.
	14.	79	17 18	212 50	30.0	79 $\frac{1}{2}$	77	77	Ditto.	
	15.	78 $\frac{1}{2}$	17 46	211 05	30.05	80	77	77	Ditto.	Little wind, and fair weather.
	16.	78 $\frac{1}{2}$	17 46		30.1	82	84	84	S. by E.	

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1773	Morn		Noon		Even		Wind	Weather &c
	Ther mo meter	Latitude South	Longitude East of Green wich	Baro- meter	Ther- mo- meter	Ther mo meter		
Aug 17	81	17 39 ¹		30,0	82	82	East	Little wind, and cloudy
18	84	17 44 ¹	210 36	30,05	82	81	Ditto	Ditto and fair weather
19	83	In Oaitipeha Bay, on the N W side of the lesser peninsula of Ota heite		30,1	82	81	Ditto	Brisk wind, with showers
20	82			30,0	82	80	E by S.	Brisk, and flying clouds
21	80 ¹			29,95	81 ¹	77	N E	
22	78			29,85	81	79	N N W	
23	77	In Matavi Bay, Otaheite		30,0	78	78	W by S	Moderate wind, with showers
24	75			30,05	75	77	S W by W	
25	74			30,0	80 ¹	78	E S E	
26	72			30,1	81 ¹		Ditto	
27		17 29	210 23				Ditto	Light winds, and fine weather
28							Ditto	
29							Ditto	
30							Ditto	
31							Ditto	
Sept. 1							West	
2	76 ¹	16 59 ¹	209 38 ¹	30,0	77	75	S E	Gentle breezes, and fine weather
3	75	16 45	209 0	30,0	77	76	Ditto	
4	76	At anchor in Owa harre Harbour, in Huaheine		30,1	78	77	E S E	
5	77			30,0	79 ¹	79	Ditto	
6	77 ¹			30,0	78	77	Ditto	
7	77 ¹	16 59 ¹		30,05	80	77	Ditto	
8	78	16 45 ¹	208 35	30,0	81	78	Ditto	Little wind, and drizzling run
9	77 ¹			30,0	80 ¹	78	Ditto	
10	76			30,1	82 ¹	81	Ditto	
11	77	At anchor in Oha manens Harbour, in Uliateah		30,0	82	82	W S W	
12	76			30,0	77	80	E S E	
13	76 ¹			30,16	78	80	Ditto	
14	77			30,14	77	75	E by N	
15	74 ¹			30,13	77	76	E by S	Brisk wind, and flying clouds
16	75 ¹			30,11	77	75	E S E	
17	76 ¹	16 50 ¹	208 11	30,05	78	78	Ditto	
18	76 ¹	17 16	207 02	29,9	78	77	E by S	
19	77 ¹	17 40	205 58	29,95	78	78	East	
20	76 ¹	18 02	204 50	30,0	80	77	E by N	Moderate winds, and showers
21	78 ¹	18 24	204 25	29,9	80	76	N W	
22	78	18 40	203 31	30,0	77	76	S S E	
23	72 ¹	19 06	201 58	30,0	74	72	S E by S	
24	73 ¹	19 28 ¹	200 20	30,05	74	72	F S E	
25	74 ¹	19 52	197 40	30,05	74	73	Ditto	
26	73	20 25	95 26	30,95	73	71	Ditto	Brisk wind, and cloudy
27	70 ¹	20 39	193 09	30,95	72	70	Ditto	
28	72	21 04	190 03	30,0	74	72	E by S	

1773.	Morn.	Noon.				Even.	Wind.	Weather, &c.	
	Ther- mo- meter.	Latitude	Longitude	Baro- meter.	Ther- mo- meter.	Ther- mo- meter.			
		South.	East of Green- wich.						
		°	°						
Sept. 29.	72	21 28½	188 36	30,1	72	71	E. by S.	Moderate wind and flying clouds.	
30.	70½	21 12		30,0	70	68½	S. E. by E.		
Oct. 1.	69	21 20½	185 40	30,0	72	69	Ditto.	Moderate wind, and cloudy.	
2.	70½	21 21½		30,15	71½	68½	E. N. E.		
3.	71	21 04		30,0	71½	72	Ditto.	Ditto.	
4.	70½	21 4	185 10	30,05	72½	70	Ditto.		
5.	66½	{ At Tongatabu, one of the Friendly Islands. }			30,0	71	70	E. by N.	Brisk wind, with showers.
6.	67	21 4½		29,95	73	71	Ditto.	Gentle gales, with clouds.	
7.	69	21 4½		30,0	71½	71	E. S. E.		
8.	71	22 1½	185 02	29,95	71½	70	S. W. by S.	Little wind, and cloudy.	
9.	70	22 25½	185 28	30,0	71	69	S. S. W.		
10.	69	22 45	184 15	30,05	69	67	S. E. by S.	Brisk wind, and fair weather.	
11.	67	23 54	183 0	30,0	68	67	S. E. by E.		
12.	68	25 31	181 43	30,2	68	66	East.	Moderate wind, and ditto.	
13.	67	27 11½	180 56	30,2	68	67	E. by S.		
14.	66	28 42	180 14	30,1	66	65	East.	Moderate wind, and cloudy.	
15.	65½	30 15	179 47	30,2	67½	65	E. by N.		
16.	64	31 38½	179 45	30,2	66½	65	East.	Moderate wind, and fine weather.	
17.	65	32 43	179 58	30,2	67½	65½	N. E.		
18.	65	33 47½	180 05	30,0	67	64½	N. N. E.	Light winds, and fair weather.	
19.	64½	35 54½	180 21	29,15	65½	64	North.		
20.	58	37 44½	179 45	29,65	60	59	West.	Brisk gales, with rain.	
21.	58	39 06½	178 26	29,25	64	60	N. W.		
22.	56	40 15	176 30	29,2	59	57	North.	Strong wind, in squalls.	
23.	55	40 53½	176 05	29,55	56	56	S. S. W. ½ W.		
24.	56	41 30	175 28	29,3	61	55½	W. N. W.	Strong wind, and cloudy weather.	
25.	54	42 18	174 58	29,25	60	56	N. W.		
26.	55	42 33	174 42	29,6	54½	51	South.	Ditto, and fair weather.	
27.	54½	42 17	174 33	29,65	56	54	N. W.		
28.	54	42 18	175 10	29,25	56	54	Ditto.	Moderate wind, and ditto.	
29.	53½	41 50	175 33	29,65	53	53	W. by N.		
30.	54	41 53	175 29	29,55	60	54	N. W.	Strong wind, and hazy.	
31.	59	42 32	175 41	29,7	64½	55	N. N. W.		
Nov. 1.	58	42 52	175 45	29,15	61	54	N. N. W.	Ditto, and fair weather.	
2.	58	41 37	176 0	29,65	57	52	W. by N.		
3.	53	41 20	175 30	29,75	53	54	S. S. W.	Little wind, and rain.	
4.	54	41 40	175 0	29,7	60½	59	N. W. by W.		
5.	56	41 34	175 10	29,65	51	54	S. W.	Moderate wind, and cloudy.	
6.	54	41 37	175 57	29,6	52	53	South.		
7.	53	39 41	177 25	29,75	53	53	S. by W.	Strong wind, and heavy rain.	
8.	60	39 01½	177 51	29,75	63	54	W. by N.		
9.	56	38 21½	178 33½	29,65	57	57	S. by W.	Ditto, with drizzling rain.	
								Moderate wind, and fair weather.	

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1773	Morn	Noon				Even	Wind	Weather &c.
	Ther- mo- meter	Latitude South	Longitude East of Green wich	Baro- meter	Ther- mo- meter	Ther- mo- meter		
8 Nov	10	59	At anchor in To- laga Bay		29,85	57	S S E	Moderate wind, and fair weather
11	56	29,8			57	South		
12	56	30,1			59	S E	Strong wind, and squally	
13	52	30,1			58	S E by E		
14	57	30,2			61	E S E		
15	56	29,95			60	S S E	Moderate winds, and fair weather	
16	54	38 31	178 37	29,65	64	60		N N E
17	62	39 42	178 07	29,6	67	62	N W	Moderate winds, and fair weather
18	63	39 59	177 45	29,6	68	67	W N W	
19	62	40 39	177 09	29,55	68	62	{ N W W by S }	Little winds, with squally weather
20	64	41 03	175 50	29,8	56	55	Variable	Little winds, and cloudy
21	54	41 05	175 40	29,75	55	54	South	Strong wind, with rain at times
22	52	41 04	176 25	30,1	55	55	S S W	Moderate wind, with flying clouds
23	58	40 54	175 53	30,2	61	56	S E	Little wind, and fair weather
24	57	41 36	175 0	30,3	61	65	N E	
25	56	41 57	174 45	30,0	56	57	N N W	Strong wind, and hazy
26	56			30,15	58	56	Ditto	Moderate wind, with rain
27	56			29,9	61	57	Ditto	Strong wind, with rain
28	58			30,2	62	56	Ditto	Light airs, and hazy
29	57			29,85	60	56	S W	
30	54	42 07	174 50	30,15	57	55	S by W	Moderate wind, and fine weather
1 Dec	56	30,22	63	56	South			
2	56	30,08	66	57	N W			
3	57	30,02	67	56	Variable	Squally, with drizzling rain		
4	56	29,8	59	54	N N W			
5	54	On shore in Queen Charlotte's Sound		29,8	69	59	North	Strong wind and much rain
6	55			29,7	68	66	Variable	
7	57			29,96	68	68	N W	Moderate wind, and fair weather
8	51			30,46	69	69	N N W	
9	59			30,4	69	68	W N W	Little wind, and fair weather
10	64			30,57	69	64	Variable	
11	60			30,48	73	69	N W	Little wind, and fine weather
12	63			30,39	73	65	Ditto	Brisk wind, and fine weather
13	61			30,30	73	65	Ditto	
14	61			30,38	74	73	Variable	Moderate wind, and cloudy
15	59			30,26	64	61	N N E	
16	57			30,20	65	72	S S W	Gentle breezes and fair weather
17	54			30,0	66	59	N E	Gentle breezes, and fair weather
18	55			29,92	64	59	N W	
19	61			29,96	66	60	Variable	Strong gales in squalls, & cloudy
20	61			29,94	65	62	N N E	
21	61			29,65	63	64	N W by N	Brisk gales, and hazy
22	65			29,8	65	65	Ditto	

1773.	Mon.	Noon.				Even.	Winds.	Weather, &c.	
	Ther- mo- meter.	Latitude South.	Longitude East of Green- wich.	Baro- meter.	Ther- mo- meter.	Ther- mo- meter.			
4 Dec.	23.	64	42 25 $\frac{1}{2}$	175 10	30,1	66	65 $\frac{1}{2}$	N. W.	} Little wind, and fine weather.
24.	61 $\frac{1}{2}$	43 0 $\frac{1}{2}$	175 0	30,15	64 $\frac{1}{2}$	62	62	E. N. E.	
25.	59 $\frac{1}{2}$	44 39	175 56	30,2	62	61 $\frac{1}{2}$	61 $\frac{1}{2}$	N. E.	} Little wind, and foggy.
26.	57	45 43	176 59	29,	57	60	60	S. by E.	
27.	57	46 25	177 44	29,75	58	56	56	Ditto.	} Little wind, and foggy, with drizzling rain.
28.	52	47 05	178 32	30,05	54	54	54	Variable.	
29.	52	48 07 $\frac{1}{2}$	178 56	29,9	54	54	54	N. E. by E.	} Brisk wind, and cloudy. Little wind, and thick fog.
30.	51	49 33	179 37	29,4	56	51	51	Variable.	
31.	50	50 36	179 50	28,95	48	50	50	S. S. E.	Strong wind, and much rain.
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5 Jan.	1.	45	50 37	180 55	29,75	46	41	South.	Brisk wind, and flying clouds.
2.	41	51 37	183 11	30,05	48	42	42	W. by S.	Ditto, and cloudy.
3.	49	53 11	186 18	29,7	49 $\frac{1}{2}$	49	49	West.	Strong wind, and thick, with rain.
4.	49	54 41	189 27	29,25	46	46	46	Ditto.	Moderate wind, and heavy rain.
5.	43	55 29	192 42	29,4	46	45	45	W. S. W.	Brisk wind, and flying clouds.
6.	38 $\frac{1}{2}$	56 27	196 7 $\frac{1}{2}$	29,4	41	40	40	S. by W.	Ditto, with squally weather.
7.	38	56 57	199 42 $\frac{1}{2}$	29,6	38	37	37	Ditto.	Ditto, with sleet.
8.	38	57 06	202 47	29,7	40	36 $\frac{1}{2}$	36 $\frac{1}{2}$	S. by E.	} Moderate wind, with showers.
9.	36	57 29	206 06	29,65	38	37	37	S. S. W.	
10.	37 $\frac{1}{2}$	57 56	208 48	29,25	37 $\frac{1}{2}$	36	36	W. by S.	Little wind, and thick, with rain.
11.	35	58 18	212 47	28,65	36	36	36	W. S. W.	Moderate wind, with snow at times.
12.	35	58 40 $\frac{1}{2}$	215 20	28,5	38	36	36	S. W.	Light winds, and cloudy.
13.	36	58 45	216 39	28,55	41	37	37	Variable.	Ditto, with snow.
14.	37	58 45	217 50	28,55	37	38	38	W. S. W.	Little wind, with drizzling rain.
15.	39 $\frac{1}{2}$	58 48 $\frac{1}{2}$	221 46	29,0	38 $\frac{1}{2}$	38 $\frac{1}{2}$	38 $\frac{1}{2}$	West.	Brisk wind, with snow at times.
16.	39	58 50 $\frac{1}{2}$	225 40	29,5	40	40	40	Ditto.	} Brisk winds, with snow.
17.	39	59 51	229 31	29,7	43	41	41	Ditto.	
18.	39	59 11	234 37	29,4	41	41 $\frac{1}{2}$	41 $\frac{1}{2}$	N. W.	Strong wind, with showers.
19.	42	59 25	241 05	28,75	41	40	40	W. N. W.	Ditto, and flying clouds.
20.	43	59 52	245 39	28,45	41 $\frac{1}{2}$	42	42	N. N. W.	Moderate wind, and thin clouds.
21.	38	60 9 $\frac{1}{2}$	247 20	28,35	41 $\frac{1}{2}$	40	40	S. E. by S.	Little wind, and cloudy.
22.	40	59 31	249 07	28,75	42 $\frac{1}{2}$	40	40	S. $\frac{1}{2}$ E.	Little wind, and flying clouds.
23.	40	59 15	251 54	28,5	42	41	41	S. by E.	Brisk wind, and squally at times.
24.	41	59 33 $\frac{1}{2}$	255 26	28,85	38 $\frac{1}{2}$	40	40		Little wind, and hazy.
25.	43	60 18	259 30	29,2	43	42	42	North.	Brisk wind, and very hazy.
26.	41 $\frac{1}{2}$	60 48	263 02	29,55	43	42	42	N. N. W.	Brisk wind, and foggy, with rain.
27.	41	61 13	266 45	29,3	41 $\frac{1}{2}$	41 $\frac{1}{2}$	41 $\frac{1}{2}$	N. W.	Little wind, and very foggy.
28.	41	61 46	270 50	29,05	42	41	41	W. N. W.	Brisk wind, and foggy at times.
29.	41	61 50	275 34	29,3	42	42	42	N. N. W.	Ditto, and cloudy, with showers.
30.	43 $\frac{1}{2}$	61 34 $\frac{1}{2}$	280 40	29,35	41	41 $\frac{1}{2}$	41 $\frac{1}{2}$	W. N. W.	Brisk wind, and fair weather.
31.	41	61 20	287 44	29,4	39 $\frac{1}{2}$	41 $\frac{1}{2}$	41 $\frac{1}{2}$	N. W. by N.	Moderate wind, and heavy rain.
1 Feb.	1	61 02	291 31	29,4	41	41 $\frac{1}{2}$	41 $\frac{1}{2}$	W. N. W.	Brisk wind, and thick, with rain.
2.	41	60 41 $\frac{1}{2}$	295 55	29,25	42	41	41	Ditto.	Moderate wind, and cloudy.
3.	41	60 36	302 47	29,6	41	41	41	W. by N.	Brisk wind, with rain.

1774.		Morn		Noon				Even		Winds	Weather &c
		Ther mo meter	Latitude South	Longitude East of Green wich	Baro- meter	Ther- mometer	Ther mo- meter				
Feb.	4	36	60 32	307 06	29,65	39	37	37	N W	Moderate wind, and hazy	
	5	37	60 18	310 58	29 55	37	37½	37½	N N W		
	6	36½	60 16	312 40	28,9	38	35	35	E N E	Brisk winds with snow at times	
	7	35	59 17	315 02	29,35	41	36	36	S E	Little winds and hazy	
	8	37	58 30	317 20	29,8	37½	37	37	N W	Brisk winds ditto	
	9	35	57 20	320 18	29,85	37½	38	38	S W	Moderate wind, and foggy	
	10	39½	56 58	322 3	30,05	41½	38½	38½	N N W	Ditto, and cloudy	
	11	39	56 22	324 24	29,85	41	39½	39½	Ditto		
	12	41	55 28	325 47	29,3	40	36½	36½	N W by W	Strong wind, with drizzling rain	
	13	38	54 38	327 56½	29,35	41	39	39	N W	Brisk wind, with thick fog	
	14	38½	54 22	330 0	29,6	42	40	40	N N W	Little wind, ditto	
	15	39	54 11	333 0	29,3	40½	39	39	N W	Brisk wind, ditto	
	16	38½	54 02	336 09	29,2	39½	38½	38½	S E	Moderate wind, & foggy, with rain	
	17	39	54 10	338 57	29 55	38	38	38	N E	Moderate wind and thick clouds	
	18	40	54 12	340 16	29 35	40	40	40	North	Little wind, foggy with rain	
	19	39	54 0	341 57	28 95	40	37	37	E S E	Brisk wind, and foggy weather	
	20	36	53 20	343 56	29 65	37	38	38	S W by S	Ditto, cloudy	
	21	39	53 24	346 50	29,1	39½	38½	38½	W S W	Ditto, squally	
	22	37	53 11	349 37	29,95	40	39	39	West	Light winds, and fine weather	
	23	38½	53 04	352 29	29,7	39	39	39	West	Brisk wind and thick weather	
	24	40	52 47	355 43	29 45	39	39½	39½	W N W	Strong wind, and foggy	
	25	39	53 16	358 17	29,3	38½	38	38	West	Ditto, with snow	
	26	37	53 35	0 3	29,2	33	36	36	E S E	Little wind, ditto	
Here, having made a complete revolution round the Globe 360° of Longitude were dropped, and a day repeated											
	26	37	53 27	3 8	29,6	37	37	37	W by S	Saw the Southern lights, but not very bright	
	27	35	53 54	5 27	29 7	40	34	34	North	Brisk wind and fine weather	
	28	34	54 0	5 52½	29 0	35	36	36	E S E	Little wind and hazy	
March	1	34½	53 46	7 41	29,15	35½	34	34	N W	Ditto, snow and rain	
	2	35	54 4	9 51	29 2	35½	34½	34½	N W	Brisk wind, snow and rain	
	3	34	53 18	11 40	29 45	40	34½	34½	W N W	Ditto, cloudy	
	4	37	52 42	11 31	29,0	39½	34½	34½	West	Ditto fair	
	5	37	50 44½	12 39	29,9	38	36	36	N W by N	Strong wind and heavy rain	
	6	43	49 55	14 30	29,6	42	39	39	N N W	Ditto, cloudy	
	7	38	48 32	14 1	29,85	41	40	40	Ditto	Ditto, rain	
	8	38	47 37	13 52	29,95	40	39	39	West	Little wind, and flying clouds	
	9	45½	45 41	14 27½	29 85	4½	38	38	N W by N	Brisk wind, and cloudy	
	10	47½	43 14	14 50	29 7	40	46	46	W by N	Strong wind, with squalls of rain	
	11	47½	41 48	14 19	30,05	45	49	49	W S W	Brisk wind and flying clouds	
	12	61½	41 16	14 34	29,6	64	58	58	S S W	Little wind, and cloudy	
	13	64	39 59	15 14	29,6	60	61	61	N N W	Brisk wind with rain	
	14	64½	37 32½	16 4	29 7	65	62	62	W by N	Little wind and fair weather	
	15	65½	35 31½	16 4	30 20	69	68	68	W S W	Brisk wind, and ditto	
	16	67	34 37	16 51	30 05	69½	68½	68½	S E by S	Little wind, and fine weather	

1774.	Morn.	Noon.				Even.	Winds.	Weather, &c.
	Ther- mo- meter.	Latitude South.	Longitude East of Green- wich.	Baro- meter.	Ther- mo- meter.	Ther- mo- meter.		
4 Mar. 17.	68 $\frac{1}{2}$	34 13	17 42	30,0	69 $\frac{1}{2}$	69	W. S. W.	Little wind, and fine weather.
2 — 18.	68 $\frac{1}{2}$	At the Cape of Good Hope.		29,95	61	67	N. E. by N.	Little wind, and thick fog.
1 — 19.	68			29,90	72	66	N. N. W.	Little wind, and clear.
0 — 20.	69			30,05	61	67	W. by N.	Strong wind, and squally weath.
3 — 21.	62			30,02	62	61	N. by W.	Little wind, and fine weather.
5 — 22.				29,96	70		East.	
7 — 23.				29,92	70 $\frac{1}{2}$		E. by S.	
11 — 24.				30,0	70		Ditto.	
2 — 25.				30,1	68		S. E.	Strong wind, and clear weather.
5 — 26.				30,04	68		N. W.	Little wind, and fine weather.
0 — 27.				30,11	65 $\frac{1}{2}$		Ditto.	Brisk wind, with rain.
3 — 28.				30,18	63		S. E.	Strong wind, and flying clouds.
5 — 29.				30,1	63 $\frac{1}{2}$		Ditto.	Ditto, and hazy.
7 — 30.				30,13	66		N. W.	Little wind, and fine weather.
11 — 31.				29,95	68		Variable.	
4 April 1.				30,0	68		North.	Little wind, and hazy.
2 — 2.				30,06	65		E. by S.	Little wind, and fine weather.
0 — 3.				30,08	64 $\frac{1}{2}$		N. W.	Strong wind, and ditto.
3 — 4.				30,08	67		Ditto.	Strong wind, and hazy weather.
5 — 5.				30,1	66		E. N. E.	
7 — 6.				30,0	72		S. E.	Little wind, and fine weather.
11 — 7.				30,04	69		Ditto.	
2 — 8.				30,04	67		Ditto.	Little wind, and cloudy.
5 — 9.				29,99	67		Ditto.	Brisk wind, and flying clouds.
0 — 10.				29,89	67		Ditto.	Little wind, and fine weather.
3 — 11.							Ditto.	
5 — 12.							E. S. E.	Little wind, and ditto.
7 — 13.							N. W.	Brisk wind, and flying clouds.
11 — 14.							Ditto.	Little wind, and fine weather.
2 — 15.	66			30,1	67 $\frac{1}{2}$		E. S. E.	
5 — 16.				30,1		72	N. N. W.	Little wind, and fine weather.
0 — 17.	64	33 13	17 31	30,15	65	66	S. S. E.	Little wind, and much rain.
3 — 18.	67	32 49	16 54	29,8	64	67	Variable.	
5 — 19.	64	33 5	16 7	29,9	66	69	N. N. W.	Ditto, and flying clouds.
7 — 20.	64	32 34	16 7	30,1	71	64	S. S. E.	Ditto, and fine weather.
11 — 21.	63 $\frac{1}{2}$	31 13 $\frac{1}{2}$	14 20	29,85	70	65	Ditto.	Brisk wind, and ditto.
2 — 22.	63 $\frac{1}{2}$	30 16	13 0	29,85	66 $\frac{1}{2}$	64	W. N. W.	Little wind, and ditto.
5 — 23.	65	29 15	13 23 $\frac{1}{2}$	30,0	66	64	N. W. by W.	Ditto, and flying clouds.
0 — 24.	66	27 44 $\frac{1}{2}$	11 43	30,0	66	65	South.	Brisk wind, and flying clouds.
3 — 25.	65	26 13	9 36	29,9	67	66	E. S. E.	
5 — 26.	66	24 57	8 28	30,0	69 $\frac{1}{2}$	67	S. S. E.	Little wind, and fine weather.
7 — 27.	66	23 48	7 12	29,9	70	67	S. S. W.	
11 — 28.	66 $\frac{1}{2}$	22 49	6 19	29,9	69 $\frac{1}{2}$	67	South.	
2 — 29.	69 $\frac{1}{2}$	21 53	5 18	29,9	75	68	S. E. by E.	

1774	Morn	Noon				Even	Winds	Weather &c
		Ther- mo- meter	Latitude South	Longitude East of Green- wich	Baro- meter	Ther- mo- meter		
h April 30	69	21 22	3 31	30,1	77	67	S E by E	Little wind, and fine weather
O May 1	69	20 52	2 40	30,1	74	69	S E	
h — 2	69	20 22	1 57	29,9	70	68	S W	
h — 3	69½	19 32	1 13	30,0	74	69	W S W	
h — 4	70	19 27	0 50	30,0	76	69	S S E	
h — 5	71½	18 47	0 0	30,05	73	69	S E	Brisk winds, and fine weather
h — 6	70	17 40	1 29	30,0	73	69	Ditto	
h — 7	71	16 49	2 37	29,95	75	69	S S E	
O — 8	71	15 48	3 38	30,0	74	69	S E	
h — 9	71	14 49	4 54	30,15	73	70	Ditto	
h — 10	73	13 22	6 34	30,15	75	71	Ditto	Brisk wind, and flying clouds
h — 11	74	12 2	8 8	29,8	77	72	S E by S	
h — 12	75	10 43	9 26	30,0	77	73	S S E	
h — 13	76	9 14	10 59	29,95	80	74	S E	
h — 14	75	7 55	12 30	30,0	80	77	Ditto	
O — 15	78	6 33	14 17	29,85	81	81	Ditto	Brisk wind, with showers
h — 16	78	5 14	15 45	29,9	82	82	Ditto	
h — 17	79	4 0	17 10	29,9	78	80	S E by E	
h — 18	78	2 35	19 2	30,0	81	80	S E	
h — 19	77	0 58	19 55	30,0	80	78	Ditto	
h — 20	76	0 21	20 35	29,9	80	77	S E by S	Gentle breezes, and fine weather
h — 21	77	1 24	21 0	30,0	80	78	S by E	
O — 22	80	2 54	21 32	29,95	82	80	S S E	
h — 23	79	4 5	22 1	30,0	83	80	N E	
h — 24	78	4 37	22 17	29,95	79	80	E S E	
h — 25	78	5 27	22 17	30,1	82	79	E by N	Light winds, and fine weather
h — 26	79	5 56	22 52	29,95	82	79	N E	
h — 27	77	5 59	24 34	30,0	81	79	Calm	
h — 28	75	6 11	24 57	29,9	81	80	S by W	
O — 29	75	6 38	25 33	29,95	79	75	Calm	
h — 30	75	6 41	25 0	30,0	76	75	Variable	Little wind, and heavy rain
h — 31	77	6 37	25 20	30,0	79	76	Ditto	
h June 1	79	6 48	24 57	30,0	81	78	Ditto	
h — 2	79	7 7	25 37	30,0	80	79	N N E	
h — 3	79	7 11	25 50	30,0	81	79	Ditto	
h — 4	78	7 39	26 45	30,0	80	78	N E by N	Little wind, and fine weather
O — 5	77	7 59	27 11	30,0	79	79	North	
h — 6	77	8 14	27 54	30,0	81	78	N E by E	
h — 7	78	9 15	28 51	30,0	80	79	Ditto	
h — 8	77	10 29	30 06	29,9	79	77	Ditto	
h — 9	77	11 51	31 12	29,95	79	77	Ditto	Ditto, and flying clouds
h — 10	76	13 18	32 31	30,05	77	76	N N E	

1774.		Morn. Ther- mo- meter.	Noon.				Even. Ther- mo- meter.	Winds.	Weather, &c.
			Latitude North.	Longitude West of Green- wich.	Baro- meter.	Ther- mon.			
h	June 11.	74	14 42	33 51	30.0	76½	75	N. E.	Brisk wind, and squally.
o	12.	74	16 23½	34 44	30.0	76	74	Ditto.	Ditto, and fine weather.
d	13.	73½	17 44½	35 37	30.0	75	74½	N. E. by E.	
h	14.	74	19 13½	36 16	29.95	77	75	E. by N.	Light winds, and flying clouds.
h	15.	75	20 49½	36 37	30.05	76	75	E. N. E.	Squally, with showers of rain.
u	16.	75	22 22	37 35	30.15	77½	76	N. E. by N.	Light winds, and cloudy.
h	17.	76	23 45	38 23	30.05	79	77½	N. E. by E.	Gentle breezes, and fair weather.
h	18.	76	25 9½	39 13	30.25	77½	76	Ditto.	
o	19.	75	26 34	39 11	30.2	77½	75	E. S. E.	Brisk wind, in squalls.
d	20.	75½	28 0	39 0	30.3	76½	75½	S. E.	Little wind, and thin clouds.
h	21.	74½	29 17½	39 24	30.25	76½	77	E. N. E.	Brisk gales, and squally.
h	22.	75	30 54	39 36	30.3	75	75	East.	Brisk wind, with showers.
u	23.	75	32 39½	40 05	30.3	74	74½	E. by N.	
h	24.	72½	34 23½	40 29	30.45	73½	74½	Ditto.	Gentle winds, and fine weather.
h	25.	71½	35 56	40 29	30.45	73½	73	Ditto.	
o	26.	71	37 12	40 20	30.35	72	72	E. S. E.	Little wind, and cloudy.
d	27.	71	37 45½	39 32	30.3	73	71	S. E. by S.	Gentle breezes, and fine weather.
h	28.	71	37 53	40 10	30.4	76	72	Variable.	
h	29.	72	38 40	39 40	30.4	74½	72½	W. N. W.	
u	30.	73	39 13	39 0	30.4	76	73	West.	
h	July 1.	73	40 6	37 24	30.3	74½	73½	N. W. by W.	Brisk wind, and cloudy.
h	2.	69	40 51	35 55	30.15	76	71	East.	Light winds, with rain.
o	3.	70	41 33	35 0	30.1	70½	71½	N. W. by N.	Brisk winds, in squalls.
d	4.	72	42 44	32 32	30.1	72	70	West.	Brisk wind, and cloudy.
h	5.	72	44 1	29 57	30.0	71	69	West.	
h	6.	67	45 45	27 18	29.8	65	66	S. W.	Strong wind, and squally.
u	7.	56	47 10	23 58	29.85	59	59	W. N. W.	Very strong wind, and ditto.
h	8.	57½	48 5½	20 41	29.9	58	57½	N. W.	Brisk wind, and fine weather.
h	9.	57	49 9	17 19	29.95	57	58	Ditto.	Strong wind, with heavy showers.
o	10.	57	49 22	15 55	29.95	58	57	Ditto.	Little wind, and cloudy.
d	11.	57	49 27½	11 31	30.1	61	56	Ditto.	Ditto, and fine weather.
h	12.	58	49 35½	8 1	29.9	60	54½	S. W.	Brisk wind, and thick rainy weather.
h	13.	57	50 6½	5 20	29.9	57	53	W. N. W.	Little wind, and hazy.
u	14.	55	At Spithead.		29.95	54	66	N. W. ÷ N.	Brisk wind, and squally.

ASTRONOMICAL OBSERVATIONS,

F O R

Determining the LATITUDE of the Ship and her LONGITUDE,

BY TWO WATCHES:

One made by Mr. KENDALL, on Mr. HARRISON'S PRINCIPLES,
and the other by Mr. ARNOLD.

Made on Board his M A J E S T Y 's Sloop RESOLUTION,

In her late Voyage on Discoveries towards the South.

1772.	Time by Watch K.		Time by Watch A. No. 3.		Altitude of the ☉'s L. L.	Longitude W. by K.	Longitude W. by A.	Latitude North.	Thermom.		No. of Obs.	Remarks.
	H	M	H	M					A.	B.		
○ July 12.	20	19 50 $\frac{1}{2}$	20	17 59 $\frac{3}{4}$	37 39 $\frac{3}{4}$	4 22 $\frac{1}{2}$	4 06 $\frac{1}{4}$	50 15 $\frac{1}{2}$	66	61	3	
☾ — 13.		Noon.			61 28 $\frac{1}{2}$				65	61 $\frac{1}{2}$		
		5 24 21 $\frac{1}{2}$	5	22 15	22 56	4 34 $\frac{3}{4}$	4 15	49 44 $\frac{1}{2}$			4	
☼ — 14.	20	10 14	20	7 5	35 38	5 4 $\frac{1}{2}$	4 23 $\frac{1}{2}$	49 11			5	
☾ — 15.		Noon.			62 25			48 50	65	64		
		4 59 45 $\frac{1}{2}$	4	56 22 $\frac{1}{2}$	27 25 $\frac{1}{2}$			48 34 $\frac{1}{2}$			4	
☾ — 16.		Noon.			63 37			47 28 $\frac{1}{2}$	63 $\frac{1}{2}$	61		
		4 53 25	4	49 21	29 23 $\frac{1}{2}$			47 14			3	
☼ — 17.		Noon.			64 30 $\frac{1}{2}$			46 24 $\frac{1}{2}$	67	70		
	19	14 01	19	8 54	24 18 $\frac{3}{4}$			46 37 $\frac{1}{2}$			5	
		21 0 24			42 11						3	
		22 45 51			57 42						3	
☾ — 18.	19	30 49	19	25 0	26 30 $\frac{3}{4}$			45 35 $\frac{1}{2}$	67	63	3	
○ — 19.		Noon.			65 12			45 20	66	64 $\frac{1}{2}$		
☾ — 20.		Noon.			66 27 $\frac{1}{2}$			43 54	66 $\frac{1}{2}$	66		
☼ — 21.		Noon.			66 40			43 30	67	66		
	19	57 50	19	49 48	29 51			43 41 $\frac{1}{2}$			2	
	21	50 4 $\frac{1}{2}$	21	41 52 $\frac{1}{2}$	49 47			43 40			5	
	22	18 11 $\frac{1}{2}$	22	10 5 $\frac{1}{2}$	54 25 $\frac{1}{2}$			43 38 $\frac{1}{2}$			3	
☾ — 22.		Noon.			66 23			43 35	67	65 $\frac{1}{2}$		
	5	18 6 $\frac{3}{4}$	5	9 45 $\frac{3}{4}$	25 41			43 26		69	3	
	19	2 41	18	53 53 $\frac{1}{2}$	19 15 $\frac{1}{2}$			42 41 $\frac{1}{2}$			6	
☾ — 23.		Noon.			67 28			42 18	65	64 $\frac{1}{2}$		
	19	17 13 $\frac{1}{2}$	19	7 38 $\frac{1}{2}$	20 25 $\frac{1}{2}$			40 32	63	65 $\frac{1}{2}$	5	
☼ — 24.		Noon.			69 31			40 2	67	66 $\frac{1}{2}$		
☾ — 25.		Noon.			71 40			37 40	70 $\frac{1}{2}$	70		
	6	3 48 $\frac{1}{2}$	5	53 4 $\frac{1}{2}$	19 02			37 6 $\frac{1}{2}$			4	
○ — 26.		Noon.			73 36			35 31 $\frac{1}{2}$	71	72 $\frac{1}{2}$		
	5	32 42 $\frac{1}{2}$	5	21 11	25 45 $\frac{1}{2}$			35 07			5	
	21	56 24 $\frac{1}{2}$	21	44 14 $\frac{1}{2}$	48 50 $\frac{1}{2}$			33 56 $\frac{1}{2}$			4	
☾ — 27.		Noon.			75 10			33 43	71	72		
	20	0 18	19	47 18 $\frac{1}{2}$	23 35 $\frac{1}{2}$			32 54	73	72 $\frac{1}{2}$	3	
When the last Observations were taken, the island of <i>Porto Santo</i> bore N. W. by N. distant about four miles.												
☼ — 28.		Noon.			75 50			32 48 $\frac{1}{2}$	73	72 $\frac{1}{2}$		
☾ — 30.	I carried both Time-keepers on shore at Funchial, on the island of Madeira, and compared them with the Astronomical Clock, (see p. 6.) from whence I find that Mr. Kendall's was losing at the rate of 1 $\frac{1}{2}$ a day on mean time, and gave the longitude of the place 12° 50' 14" west of Drake's Island, or 17° 6' 22" west of Greenwich. Mr. Arnold's (No. 3.) was losing 56 $\frac{1}{2}$ a day on mean time, and gave the longitude 9° 59' 41" west of Drake's Island, or 14° 45' 49" west of Greenwich.											
○ Aug. 2.		Noon.			75 03			32 21 $\frac{1}{2}$	73 $\frac{1}{2}$	75 $\frac{1}{2}$		
	5	56 28 $\frac{1}{4}$	5	38 12 $\frac{1}{4}$	21 30 $\frac{1}{2}$			31 52 $\frac{1}{2}$			5	
☾ — 3	20	8 35 $\frac{1}{2}$	19	50 36	23 30 $\frac{1}{2}$			30 14 $\frac{1}{2}$	73 $\frac{1}{2}$	73	3	
		Noon.			77 25 $\frac{1}{2}$			19 42 $\frac{1}{2}$	74 $\frac{1}{2}$	77		

1772.	Time by Watch K.		Time by Watch A. No. 3.		Altitude of the ☉ L. L.	Longitude W. by K.	Longitude W. by A.	Latitude North.	Thermom.		Z. of Obs.	Remarks.
	H	M	H	M					A.	B.		
♂ Aug. 4.	Noon.				78 15			28 37 $\frac{1}{2}$	74 $\frac{1}{2}$	75		
	3 56 50 $\frac{1}{2}$		3 36 6		48 16 $\frac{3}{4}$			28 28 $\frac{1}{2}$		76 $\frac{1}{2}$	6	
	6 43 9		6 22 17 $\frac{1}{2}$		11 56 $\frac{3}{4}$			28 25			3	
♂ — 5.	Noon.				78 40 $\frac{1}{2}$			27 55 $\frac{1}{2}$	74 $\frac{1}{2}$	76		
	4 12 31		— — —		45 4	18 53 $\frac{1}{2}$		27 38 $\frac{1}{2}$		77 $\frac{1}{2}$	3	
♂ — 6.	Noon.				80 12 $\frac{1}{2}$			26 7 $\frac{1}{2}$	75 $\frac{1}{2}$	78		
	20 23 33		19 59 14 $\frac{1}{2}$		23 50 $\frac{1}{2}$			24 33	74	74 $\frac{1}{2}$	3	
♀ — 7.	Noon.				81 56			24 6 $\frac{1}{2}$	76	79		
	20 1 47		19 36 4 $\frac{1}{2}$		18 9 $\frac{1}{2}$			22 29 $\frac{1}{2}$	73	73	3	
♂ — 8.	Noon.				83 28			22 7	74 $\frac{1}{2}$	79		
	20 20 42 $\frac{1}{2}$		19 53 35 $\frac{1}{2}$		21 21 $\frac{1}{2}$			20 29 $\frac{1}{2}$	74 $\frac{1}{2}$	70	3	
☉ — 9.	Noon.				85 22 $\frac{1}{2}$			20 5 $\frac{1}{2}$	75	78		
	20 24 27,4		19 55 52,4		20 45 $\frac{1}{2}$			18 27 $\frac{1}{2}$	75 $\frac{1}{2}$	75 $\frac{1}{2}$	5	
♂ — 10.	Noon.				87 9			18 1	77	79		
	20 42 25		20 12 26		23 56	22 36 $\frac{1}{2}$		16 29	77 $\frac{1}{2}$	78	3	
♂ — 11.	Noon.				88 41			16 10,4	79	82		
	7 4 38		6 34 01 $\frac{1}{2}$		7 22 $\frac{1}{2}$	23 1		15 47 $\frac{1}{2}$			4	
	20 38 22		20 6 57		22 11 $\frac{1}{2}$	23 10 $\frac{1}{2}$		15 10 $\frac{1}{2}$	78	80	3	
♂ — 13.	Noon.				89 22 $\frac{1}{2}$			14 53	80 $\frac{1}{2}$	82		
♀ — 14.	Noon.				89 2 $\frac{1}{2}$			14 54 $\frac{1}{2}$	81	81		
♂ — 15.	20 52 5,4		20 15 35		25 13 $\frac{1}{2}$			12 35	80	80	3	
☉ — 16.					88 37 $\frac{1}{2}$			12 19 $\frac{1}{2}$	81	81		
	20 22 21		19 43 36		18 16 $\frac{1}{2}$			11 56 $\frac{1}{2}$			4	
♂ — 17.	22 51 37		22 11 17		55 36 $\frac{1}{2}$				81	82	3	
	0 28 46		23 48 26		79 15 $\frac{1}{2}$						3	
♂ — 18.					88 19 $\frac{1}{2}$			11 22 $\frac{1}{2}$	81	82		
	20 10 45 $\frac{1}{2}$		19 29 12 $\frac{1}{2}$		16 56 $\frac{1}{2}$			10 50	80 $\frac{1}{2}$	80	7	
♂ — 19.	1 50 20 $\frac{1}{2}$				79 38						3	
	3 59 45 $\frac{1}{2}$				48 2 $\frac{1}{2}$						5	
♀ — 21.	Noon.				86 33 $\frac{1}{2}$			8 37	79	79		
	22 30 0		21 44 32		53 13 $\frac{1}{2}$			7 55			3	
♂ — 22.	Noon.				86 7			7 50	80 $\frac{1}{2}$	80		
	4 53 32		4 7 42		31 12 $\frac{1}{2}$			7 41 $\frac{1}{2}$			5	
	20 6 50,6		19 20 12,6		19 18 $\frac{1}{2}$			6 57 $\frac{1}{2}$	79	80	5	
☉ — 23.	Noon.				85 25 $\frac{1}{2}$			6 48 $\frac{1}{2}$	80	80		
	20 50 45		20 3 47		31 21 $\frac{1}{2}$			6 29	78 $\frac{1}{2}$	78	4	
♂ — 24.	Noon.				85 21 $\frac{1}{2}$			6 23 $\frac{1}{2}$	80	79		
♂ — 25.	Noon.				85 13 $\frac{1}{2}$			5 54	80	80 $\frac{1}{2}$		
♂ — 26.	Noon.				84 46			5 6 $\frac{1}{2}$	79	76 $\frac{1}{2}$		
	20 22 13 $\frac{1}{2}$		19 30 26 $\frac{1}{2}$		27 42 $\frac{1}{2}$			4 18 $\frac{1}{2}$	78	78	4	
♂ — 27.	Noon.				84 14 $\frac{1}{2}$	East.		4 13	79	80 $\frac{1}{2}$		
	4 52 22 $\frac{1}{2}$		4 0 8 $\frac{1}{2}$		24 26 $\frac{1}{2}$			4 8 $\frac{1}{2}$			4	
	20 8 41 $\frac{1}{2}$		19 10 39		24 36 $\frac{1}{2}$			3 43 $\frac{1}{2}$			4	
♀ — 28.	Noon.				84 4			3 42 $\frac{1}{2}$	78	77		
	5 4 7 $\frac{1}{2}$		4 10 35		19 58 $\frac{1}{2}$			3 41			4	
	19 29 37		18 35 16		17 29 $\frac{1}{2}$			3 16 $\frac{1}{2}$			3	

ON BOARD THE RESOLUTION.

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1772.	Time by Watch K.	Time by Watch A. No. 3.	Altitude of the ☉ L. L.	Longi- tude W. by K.	Longi- tude E. by A.	Latitude North.	Thermom.		No. of Ob.	Remarks.
	H "	H "	o "	o "	o "		A.	D.		
h Aug. 29.	Noon.		83 52			3 9 $\frac{1}{2}$	77 $\frac{1}{2}$	78		
	5 3 41	4 8 49	18 33 $\frac{1}{2}$			3 0 $\frac{1}{2}$			4	
o — 30.	Noon.		83 40 $\frac{1}{2}$			2 38 $\frac{1}{2}$	77 $\frac{1}{2}$	77	5	
	5 8 34 $\frac{1}{2}$	4 12 49 $\frac{1}{2}$	15 22			2 35 $\frac{3}{4}$			2	
	19 54 40	18 57 33	27 17 $\frac{1}{2}$			2 33			3	
p — 31.	Noon.		83 59 $\frac{1}{2}$			2 33 $\frac{1}{2}$	79	78 $\frac{1}{2}$		
	19 18 16 $\frac{1}{2}$	18 19 43 $\frac{1}{2}$	18 22 $\frac{1}{2}$			2 4	78	77	7	
s Sept. 1.	Noon.		83 46 $\frac{1}{2}$			1 58 $\frac{1}{2}$	78	79		
	3 40 27 $\frac{1}{2}$	2 41 26 $\frac{1}{2}$	35 44			1 54 $\frac{1}{2}$			2	
	19 40 34 $\frac{1}{2}$	18 40 42 $\frac{1}{2}$	23 19 $\frac{1}{2}$			1 27 $\frac{1}{2}$			4	
u — 2.	Noon.		83 31 $\frac{1}{2}$			1 21 $\frac{1}{2}$	78	78		
u — 3.	Noon.		83 45			0 57 $\frac{1}{2}$			5	
u — 4.	Noon.		83 45			0 50 $\frac{1}{2}$	76	75	6	
	2 36 11	1 33 34	54 42 $\frac{1}{2}$			0 49			6	
	3 16 46	2 14 9	44 48			0 49			6	
b — 5.	Noon.		84 10			0 53 $\frac{1}{2}$	75 $\frac{1}{2}$	76		
	3 9 36	2 5 50 $\frac{1}{2}$	46 33			0 54 $\frac{1}{2}$			7	
	4 7 16	3 3 40	31 58			0 54 $\frac{1}{2}$			4	
o — 6.	Noon.		84 12 $\frac{1}{2}$			0 33 $\frac{1}{2}$	76	75	8	
	4 9 58 $\frac{1}{2}$	3 4 56 $\frac{1}{2}$	30 32 $\frac{1}{2}$			0 31			8	
						South.				
p — 7.	Noon.		84 6			0 10 $\frac{1}{2}$			3	
s — 8.	Noon.		84 6			0 18	76 $\frac{1}{2}$	76		
	19 42 53	18 33 48 $\frac{1}{2}$	20 59 $\frac{1}{2}$			0 51 $\frac{1}{2}$			4	
u — 9.	Noon.		83 48			0 59	76	75		
	19 55 48		23 2			1 53	75	74 $\frac{1}{2}$	4	
u — 10.	Noon.		83 10			2 0	76	75		
	19 27 17 $\frac{1}{2}$	18 14 49	14 28 $\frac{1}{2}$			2 55 $\frac{3}{4}$			5	
s — 11.	Noon.		82 27 $\frac{1}{2}$			3 5 $\frac{1}{2}$	76	76		
b — 12.	Noon.		81 44			4 11 $\frac{1}{2}$	77	76 $\frac{1}{2}$		
	4 7 1	2 54 37	34 52 $\frac{3}{4}$			4 18 $\frac{1}{2}$			4	
	19 58 19	18 42 41	20 21			4 58 $\frac{1}{2}$			4	
o — 13.	Noon.		80 48						3	
	3 10 35		50 16 $\frac{1}{2}$			5 12			3	
	20 22 24	19 6 30 $\frac{1}{2}$	25 12 $\frac{1}{2}$			6 23 $\frac{3}{4}$	75	75	4	
p — 14.	Noon.		80 10			6 32 $\frac{1}{2}$	76	76 $\frac{1}{2}$		
	5 27 44	4 9 51 $\frac{1}{2}$	17 13 $\frac{3}{4}$			6 52 $\frac{3}{4}$			4	
s — 15.	Noon.		78 49			8 16 $\frac{1}{2}$	75 $\frac{1}{2}$	77		
	21 4 34	19 43 41	33 40 $\frac{1}{2}$			9 17 $\frac{1}{2}$			3	
u — 16.	Noon.		25 9 $\frac{1}{2}$		West.	10 55			3	
	21 55 19	19 10 9	43 50 $\frac{1}{2}$						3	
	23 54 23		71 10 $\frac{3}{8}$						3	
u — 17.	Noon.		76 48			11 4	75	73 $\frac{1}{2}$		
	20 7 29	18 43 40	18 23			12 12 $\frac{1}{2}$			4	
	21 24 13 $\frac{1}{2}$	20 0 20	36 50 $\frac{1}{2}$			12 16 $\frac{1}{2}$			14	

1772	Time by Watch K	Time by Watch A No 3	Altitude of the ☉ L L.	Longi- tude West by K	Longi- tude West by A	Latitude South	Thermom		No of Obs	Remarks
	H	H					A	B		
8 Sept 18	Noon		75 44 $\frac{1}{2}$			12 31 $\frac{1}{2}$	75	73 $\frac{1}{2}$		
	21 58 48	20 39 24	43 58 $\frac{1}{2}$			13 56			3	
	23 33 46 $\frac{1}{2}$		64 39 $\frac{1}{2}$						4	
	0 36 33		73 59 $\frac{1}{2}$						3	
6 — 19	Noon		74 32			14 07	74	72 $\frac{1}{2}$		
	5 9 37	3 43 42 $\frac{1}{2}$	24 47 $\frac{1}{2}$			14 15 $\frac{1}{2}$			4	
	20 18 32	18 57 37	19 31 $\frac{1}{2}$			15 24	72	72	6	
	22 1 39 $\frac{1}{2}$	20 34 34 $\frac{1}{2}$	43 47			15 29			6	
O — 20	Noon		73 24			15 38	73	72 $\frac{1}{2}$		
D — 21	Noon		72 12			17 14	73	71		
	21 31 20 $\frac{1}{2}$	20 2 6 $\frac{1}{2}$	35 18 $\frac{1}{2}$			18 30			10	
8 — 22	Noon		71 2 $\frac{1}{2}$			18 46 $\frac{1}{2}$	74	75		
W — 23	Noon		70 0 $\frac{1}{2}$			20 12 $\frac{1}{2}$	73	73		
	6 7 10	4 36 2	12 59 $\frac{1}{2}$			20 28			6	
	21 36 40	20 4 37	36 19 $\frac{1}{2}$			21 24			6	
4 — 24	Noon		69 1			21 35 $\frac{1}{2}$	72	72		
8 — 25	Noon		68 5			22 54 $\frac{1}{2}$	71	70 $\frac{1}{2}$		
	20 20 55	18 46 0 $\frac{1}{2}$	16 55 $\frac{1}{2}$			24 3	69	69	4	
6 — 26	Noon		67 6			24 17	72	73		
	5 25 38	3 50 13 $\frac{1}{2}$	23 40 $\frac{1}{2}$			24 21			4	
	20 12 50 $\frac{1}{2}$	18 36 49 $\frac{1}{2}$	15 23			24 40 $\frac{1}{2}$	69	69 $\frac{1}{2}$	5	
O — 27	Noon		67 2			24 44 $\frac{1}{2}$	71	74		
	6 17 57 $\frac{1}{2}$	4 41 16 $\frac{1}{2}$	12 0 $\frac{1}{2}$			24 50			7	
	20 46 55	19 9 28	23 18 $\frac{1}{2}$			29 19 $\frac{1}{2}$				
D — 28	Noon		66 40 $\frac{1}{2}$			25 29 $\frac{1}{2}$	71 $\frac{1}{2}$	72		
	20 10 46	18 32 6	16 5 $\frac{1}{2}$			26 8	69	67	4	
8 — 29	21 35 6	19 54 54 $\frac{1}{2}$	36 38 $\frac{1}{2}$			26 53 $\frac{1}{2}$			4	
W — 30	Noon		68 58			26 58 $\frac{1}{2}$	71 $\frac{1}{2}$	71 $\frac{1}{2}$		
	5 27 48	3 47 7	19 42 $\frac{1}{2}$			27 4 $\frac{1}{2}$			5	
	20 19 14	18 37 49 $\frac{1}{2}$	22 16 $\frac{1}{2}$			27 23 $\frac{1}{2}$			5	
4 Oct 1	Noon		65 52			27 27 $\frac{1}{2}$	71 $\frac{1}{2}$	71		
	3 59 37 $\frac{1}{2}$	2 17 38	37 17 $\frac{1}{2}$			27 29			5	
	4 4 28	2 23 28 $\frac{1}{2}$	35 59 $\frac{1}{2}$			27 29			6	
	4 38 47 $\frac{1}{2}$	2 56 09	29 1			27 28 $\frac{1}{2}$			5	
	21 34 52 $\frac{1}{2}$	19 52 2	39 35 $\frac{1}{2}$			27 35 $\frac{1}{2}$			4	
8 — 2	Noon.		66 4 $\frac{1}{2}$			27 38 $\frac{1}{2}$				
			66 2 $\frac{1}{2}$			27 40 $\frac{1}{2}$	68 $\frac{1}{2}$	65 $\frac{1}{2}$		Sextant made by Ramsden Ditto by Dollond
h — 3	Noon	1 29 19 $\frac{1}{2}$	46 3 $\frac{1}{2}$			27 44 $\frac{1}{2}$			6	
	3 26 30	1 41 56	41 59			28 9 $\frac{1}{2}$	66 $\frac{1}{2}$	67 $\frac{1}{2}$		
	21 19 35 $\frac{1}{2}$	19 34 5	39 47 $\frac{1}{2}$			28 14 $\frac{1}{2}$			4	
O — 4	Noon		65 27 $\frac{1}{2}$			18 54			4	
	20 39 57	18 53 13	33 11 $\frac{1}{2}$			29 2 $\frac{1}{2}$	64 $\frac{1}{2}$	62		
D — 5	Noon		65 51 $\frac{1}{2}$			29 9			4	
	4 4 33	2 17 26 $\frac{1}{2}$	30 5 $\frac{1}{2}$	11 13 $\frac{1}{2}$		29 0 $\frac{1}{2}$	62 $\frac{1}{2}$	61		
						28 54 $\frac{1}{2}$			14	Hazy

1772.		Time by Watch K.		Time by Watch A. No. 3.		Altitude of the ☉'s L. L.	Longitude West by K.	Longitude West by A.	Latitude S.	Thermom.		Z. or J. or P.	Remarks.
		H	M	H	M					A.	B.		
1	Oct. 5.	22	7 10	20	19 9	50 47 $\frac{1}{2}$			29 40			4	
8	— 6.		Noon.			65 27			29 48 $\frac{1}{2}$	64	61 $\frac{1}{2}$	4	
		20	13 5	18	23 56 $\frac{1}{2}$	27 25			31 2 $\frac{1}{2}$			4	
11	— 7.		Noon.			64 17 $\frac{1}{2}$			31 21	63 $\frac{1}{2}$	60 $\frac{1}{2}$	4	
		4	29 14	2	39 41	25 50			31 28 $\frac{1}{2}$			4	
14	— 8.		Noon.			63 16			32 45 $\frac{1}{2}$	63 $\frac{1}{2}$	62	4	
		4	12 25 $\frac{1}{2}$	2	21 30 $\frac{1}{2}$	28 48 $\frac{1}{2}$			32 56 $\frac{1}{2}$			6	Very hazy.
		20	23 45	18	31 47 $\frac{1}{2}$	30 44 $\frac{1}{2}$			33 49			5	
2	— 9.		Noon.			62 24			34 0 $\frac{1}{2}$	63 $\frac{1}{2}$	61	4	
		20	4 32 $\frac{1}{2}$	18	11 11 $\frac{1}{2}$	28 27			34 20 $\frac{1}{2}$			4	
5	— 10.		Noon.			62 16 $\frac{1}{2}$			34 28 $\frac{1}{2}$	63 $\frac{1}{2}$	62	4	
		5	6 46 $\frac{1}{2}$	3	12 57 $\frac{1}{2}$	15 5 $\frac{1}{2}$			34 31 $\frac{1}{2}$			7	
		19	35 3 $\frac{1}{2}$	17	40 30 $\frac{1}{2}$	23 50 $\frac{1}{2}$			34 42 $\frac{1}{2}$			4	
10	— 11.		Noon.			62 25			34 44 $\frac{1}{2}$	63	63 $\frac{1}{2}$	4	
		4	13 29	2	18 34 $\frac{1}{2}$	25 2 $\frac{1}{2}$			34 46 $\frac{1}{2}$			4	
		6	24 12										
		6	53 24										
		6	53 51										
		6	54 57										
		6	55 23										
		6	55 30										
		7	4 0										
		20	1 12	18	4 0 $\frac{1}{2}$	29 42 $\frac{1}{2}$			34 51 $\frac{1}{2}$			4	
1	— 12.		Noon.			62 40			34 51 $\frac{1}{2}$	63	63	4	
		4	56 3 $\frac{1}{2}$	2	59 54	16 9 $\frac{1}{2}$			34 52			7	
8	— 13.		Noon.			62 40			35 14 $\frac{1}{2}$	64	65 $\frac{1}{2}$	4	
		19	33 18	17	35 11	27 2 $\frac{1}{2}$			35 30	60 $\frac{1}{2}$	61	4	
11	— 14.		Noon.			62 44 $\frac{1}{2}$			35 32 $\frac{1}{2}$	63 $\frac{1}{2}$	61	4	
		19	23 3 $\frac{1}{2}$	17	23 41	26 49 $\frac{1}{2}$			35 37			5	
14	— 15.		Noon.			63 1	East.		35 37 $\frac{1}{2}$	62	62	5	
		19	6 19	17	5 44	25 59 $\frac{1}{2}$			35 19 $\frac{1}{2}$	60 $\frac{1}{2}$	59	5	
2	— 16.		Noon.			63 43 $\frac{1}{2}$			35 17	63	61	5	
		18	44 43	16	42 55	23 42 $\frac{1}{2}$			35 1	59	57	5	
5	— 17.		Noon.			64 23 $\frac{1}{2}$			35 0	61 $\frac{1}{2}$	59	5	
		4	6 38 $\frac{1}{2}$	2	3 26	18 17 $\frac{1}{2}$			34 39 $\frac{1}{2}$			5	
10	— 18.		Noon.			65 6 $\frac{1}{2}$			34 37 $\frac{1}{2}$	59 $\frac{1}{2}$	60 $\frac{1}{2}$	4	
		3	2 47 $\frac{1}{2}$	0	59 30	29 21 $\frac{1}{2}$			34 35 $\frac{1}{2}$			4	
		19	24 2	17	19 57	35 37 $\frac{1}{2}$			34 29 $\frac{1}{2}$			5	Very cloudy.
1	— 19.		Noon.			65 46 $\frac{1}{2}$			34 19	60 $\frac{1}{2}$	57	4	
		4	2 14	1	57 42 $\frac{1}{2}$	16 56 $\frac{1}{2}$			34 23 $\frac{1}{2}$			5	
		18	32 21	16	27 6	25 30 $\frac{1}{2}$			34 41 $\frac{1}{2}$			5	
		18	52 13 $\frac{1}{2}$	16	46 57 $\frac{1}{2}$	29 34			34 41 $\frac{1}{2}$			4	
8	— 20.		Noon.			65 38 $\frac{1}{2}$			34 48 $\frac{1}{2}$	63 $\frac{1}{2}$	62 $\frac{1}{2}$	4	
		18	13 21	16	6 57	21 42 $\frac{1}{2}$			35 20 $\frac{1}{2}$	63	60 $\frac{1}{2}$	6	

1772	Time by Watch K		Time by Watch A No 3		Altitude of the Sun L. L.	Long East by K	Longitude East by A	Latitude S	Thermom		Baromet	Remarks
	H	m	H	m					A	R		
8 Oct 20	20	15	18	9	45 54 ^r			35 26 ^r			6	
4 — 21	Noon				65 9 ^r			35 39	65 ⁺	63		
	4	29	2	22	11 54			35 49			7	Very hazy
4 — 22	19	38	17	30	39 6 ^r	8 0 ^r	33 49 ^r	36 44 ⁺			5	Very uncertain
	Noon				64 17 ^r			36 52 ⁺	64	60		
8 — 23	18	26	16	17	25 50 ^r	8 53 ⁺	34 55 ⁺	37 12	62	58	5	
5 — 24	Noon				64 18			37 12 ⁺	63	61 ⁺		
	2	47	0	36	29 30 ⁺	11 32 ⁺	38 58 ⁺	36 30 ⁺	59	61 ⁺	4	
0 — 25	20	42	18	21	54 2			35 45	57	54	5	
0 — 26	17	51	15	38	23 50 ⁺	14 9 ⁺	41 3 ⁺	34 53 ⁺	59	58	4	
	Noon				67 52 ⁺			34 39 ⁺	60	62		
	2	38	0	25	29 31 ⁺	14 26 ⁺	41 27 ⁺	34 29			4	
8 — 27	18	4	15	49	27 21 ⁺	14 59 ⁺	42 10 ⁺	33 44	62	59	4	
	Noon				69 9 ^r			33 43	64	60	5	
8 — 28	18	51	16	35	27 57 ^r			33 39				
	Noon				69 31			33 41 ⁺	66	67	7	
8 — 30	3	27	1	11	18 5 ⁺			33 45 ⁺				
	Noon				69 56 ^r			33 56	62 ⁺	65		

Nov 2 Carried both Watches on shore at the Cape Town, and compared them with the Clock B, by which the times of equal altitudes were noted, (See p 14) and found that Mr Kendall's was too slow for mean time, that day at noon, by 1 h 31⁺ 4, 7, from which taking 1⁺ 11 on account of its going 5 8ths of a second a day too slow, and being set 7 10ths of a second too fast for mean time, there will remain 1 h 29 53⁺ 7 = 22 28 25⁺ for the longitude of the Cape Town East of Drake's Island, that is 18° 12' 18" East of Greenwich, or 0° 10' 57" less than the truth.

The Watch A (No 3) was too slow for mean time, the same day at noon, by 3 h 51 25⁺ 9 from which taking 28⁺ 7 9 on account of its going 1⁺ 63 a day too slow, and being likewise set 10⁺ too slow for mean time at Drake's Island, we shall have 3 h 26 18⁺ = 51° 34⁺ for the longitude of the Cape Town West of Drake's Island by this Watch; that is 47° 18⁺ East of Greenwich, or 28° 55' more than the observations of Messrs Macon and Dixon make it. The former of these Watches was going 1⁺ 2 a day too fast for mean time, when here, and the latter 1 30⁺ 642 too slow; and at these rates I supposed them to go until our arrival at Dusky Bay, in New Zealand. I also supposed the longitude of the Cape Town to be 18° 23⁺ 1 East of Greenwich.

I have to add, that in carrying the Watches on board the ship at this place, the Watch A (No 3) stopped. I went on board in the long boat, by choice thinking it would be less liable to motion or accidents than a less, and sat in the stern shears, with a watch on each side. In lying the boat along side the ship, the Coxswain let her strike but not so hard as to give me any apprehensions at the time; however on getting aboard, I found that this watch had stopped, and can assign no other cause. On the 17th I let it a going, and at 1 h 2 31⁺ 1, by Mr Kendall's Watch, it shewed 1 h 5 0⁺ and I found it 1 h 29 39⁺ 2 too slow for mean time at the Cape on the 18th at noon.

1772:	Time by Watch K.		Time by Watch A. No. 3.		Altitude of the ☉ L. L.	Longitude East by K.	Longitude East by A.	Latitude S	Thermom.		No. of Obs.	Remarks.
	H	M	H	M					A.	B.		
Nov. 22.	3	10	3	6	24 14 $\frac{1}{2}$	{ About 3 or 4 miles N. N. E. }					4	{ true off the Observatory. }
	17	12	17	7	22 9 $\frac{1}{2}$	17 51 $\frac{1}{2}$	17 29	34 11 $\frac{1}{2}$	55	62	5	
— 23.	Noon.				75 44 $\frac{1}{2}$			34 36 $\frac{1}{2}$	66	65		
	3	7	3	1	25 48 $\frac{1}{2}$	17 43 $\frac{1}{2}$	17 23 $\frac{1}{2}$	34 51 $\frac{1}{2}$			4	
	17	39	17	33	27 57 $\frac{1}{2}$	18 10 $\frac{1}{2}$	17 47 $\frac{1}{2}$	35 16 $\frac{1}{2}$	67	62	4	
— 24.	Noon.				75 9 $\frac{1}{2}$			35 20 $\frac{1}{2}$	65 $\frac{1}{2}$	63 $\frac{1}{2}$		
	3	7	3	0	26 2 $\frac{1}{2}$	17 43 $\frac{1}{2}$	17 19 $\frac{1}{2}$	35 32 $\frac{1}{2}$			4	
	17	49	17	42	29 6 $\frac{1}{2}$	16 47 $\frac{1}{2}$	16 5 $\frac{1}{2}$	36 49 $\frac{1}{2}$	64	62	4	
— 25.	Noon.				73 30 $\frac{1}{2}$			37 14	66	64		
	3	27	3	19	23 31 $\frac{1}{2}$	16 29 $\frac{1}{2}$	16 0 $\frac{1}{2}$	37 39 $\frac{1}{2}$			4	Very hazy.
	17	55	17	46	29 34 $\frac{1}{2}$	15 39 $\frac{1}{2}$	15 10	38 46 $\frac{1}{2}$	67 $\frac{1}{2}$	66 $\frac{1}{2}$	4	
— 26.	Noon.				71 52 $\frac{1}{2}$			39 3 $\frac{1}{2}$	69	69 $\frac{1}{2}$		
	2	50	2	40	31 48 $\frac{1}{2}$	15 30	14 55 $\frac{1}{2}$	39 20			4	
	17	41	17	31	27 43	16 17 $\frac{1}{2}$	15 37 $\frac{1}{2}$	39 55 $\frac{1}{2}$	60	53	5	
— 27.	Noon.				71 1 $\frac{1}{2}$			40 5 $\frac{1}{2}$	60	53		
	2	31	2	21	34 39 $\frac{1}{2}$	16 39 $\frac{1}{2}$	16 0 $\frac{1}{2}$	40 17 $\frac{1}{2}$			4	
— 28.	Noon.				70 18 $\frac{1}{2}$			40 58 $\frac{1}{2}$	62	59 $\frac{1}{2}$		
	17	38	17	26	27 16 $\frac{1}{2}$	16 28 $\frac{1}{2}$	15 40	41 56	57	52 $\frac{1}{2}$	5	Very dubious.
— 29.	Noon.				69 19 $\frac{1}{2}$			42 8	60 $\frac{1}{2}$	51		Great sea.
— 30.	Noon.				69 15 $\frac{1}{2}$			42 21	58 $\frac{1}{2}$	55		Ditto.
	4	28			13 4 $\frac{1}{2}$	18 2 $\frac{1}{2}$		42 28			1	Very doubtful.
Dec 1.	18	24	18	8	37 11 $\frac{1}{2}$	18 22	17 21 $\frac{1}{2}$	43 34	56	46	5	
— 2.	20	35	20	18	59 1 $\frac{1}{2}$	18 27	17 22	44 24 $\frac{1}{2}$			6	
— 3.	Noon.				67 37 $\frac{1}{2}$			44 25 $\frac{1}{2}$	55	49		
	4	12	3	54	16 39	18 25	17 26 $\frac{1}{2}$	44 43			5	
— 4.	17	53	17	35	31 52 $\frac{1}{2}$	18 32	17 24	45 23 $\frac{1}{2}$	52 $\frac{1}{2}$	43 $\frac{1}{2}$		
	Noon.				66 26			45 45	53	44 $\frac{1}{2}$		
	2	25	2	5	35 30 $\frac{1}{2}$	18 34 $\frac{1}{2}$	17 25 $\frac{1}{2}$	46 0			6	A great sea.
— 5.	18	6	17	52	33 48 $\frac{1}{2}$	18 14 $\frac{1}{2}$	17 0 $\frac{1}{2}$	46 48 $\frac{1}{2}$	46	50 $\frac{1}{2}$	5	
	Noon.				65 9			47 9 $\frac{1}{2}$	48	52		
— 6.	Noon.				63 51 $\frac{1}{2}$			48 34 $\frac{1}{2}$	50	38		Foggy.
	3	0	2	39	29 41 $\frac{1}{2}$	18 27 $\frac{1}{2}$	17 5	48 45			5	
— 7.	Noon.				62 43			49 49	47	42 $\frac{1}{2}$		Very uncertain.
— 9.	Noon.				62 59 $\frac{1}{2}$			49 45	44	36		
— 10.	17	43	17	16	31 42 $\frac{1}{2}$	21 8 $\frac{1}{2}$	19 37 $\frac{1}{2}$	50 51 $\frac{1}{2}$	41 $\frac{1}{2}$	34	4	
	Noon.				61 44 $\frac{1}{2}$			51 4 $\frac{1}{2}$	44 $\frac{1}{2}$	36 $\frac{1}{2}$		
— 11.	17	56	17	28	33 49	21 24 $\frac{1}{2}$	19 42 $\frac{1}{2}$	51 37 $\frac{1}{2}$	42	32 $\frac{1}{2}$	4	
	Noon.				61 4 $\frac{1}{2}$			51 49 $\frac{1}{2}$	50 $\frac{1}{2}$	34		
	1	56	1	28	38 9 $\frac{1}{2}$	21 47 $\frac{1}{2}$	20 14	52 0 $\frac{1}{2}$			4	
— 13.	20	13	19	41	51 29 $\frac{1}{2}$	22 9 $\frac{1}{2}$	20 29	54 53			6	
— 14.	Noon.				58 10 $\frac{1}{2}$			54 55 $\frac{1}{2}$	49 $\frac{1}{2}$	33		
	1	59	1	26	57 $\frac{1}{2}$	21 59 $\frac{1}{2}$	20 9 $\frac{1}{2}$	54 57			5	
— 16.	17	58	17	22	34 50 $\frac{1}{2}$	23 34 $\frac{1}{2}$	21 48 $\frac{1}{2}$	55 8 $\frac{1}{2}$			5	
— 17.	Noon.				57 57 $\frac{1}{2}$			55 16	53 $\frac{1}{2}$	33 $\frac{1}{2}$		
	5	48	5	12	14 $\frac{1}{2}$	24 43 $\frac{1}{2}$	22 55	55 8 $\frac{1}{2}$			10	
— 19.	4	44	4	5	33 $\frac{1}{2}$	26 4 $\frac{1}{2}$	24 12 $\frac{1}{2}$	54 15		31 $\frac{1}{2}$	10	

1772	Time by Watch K	Time by Watch A No. 3	Altitude of the ☉ S L L	Longi- tude East by K	Longi- tude East by A	Latitude S	Tl	mon	Remarks
	H	H	° S L L	°	°	°	A	B	
○ Dec 20	18 14 2	17 32 35½	40 17½	29 24	27 28¾	53 51½	42	32½	Bad horizon
— 21	19 23 1	18 41 31½	49 24½	29 25	27 28½	53 55⅝		33	
	Noon		59 6½			54 10½	50	33½	
	2 15 10		31 23¾	29 50		54 30		34½	
— 22	18 18 48	17 35 58½	41 4	30 20½	28 22½	55 5σ	46	32½	
— 23	Noon		58 22½			54 54	52	33	
	Noon		57 50			55 25½	59½	31	
— 24	17 42 2	16 56 28	36 18½	31 42½	29 40	56 23	49	32½	
— 25	Noon		56 42½			56 31¼	57	35	
— 26	Noon		54 39			58 31½	52	31½	
	4 12 15	3 23 16	17 58	26 13¾	24 20½	58 32½		32	
	5 27 37½	4 38 18	9 4½	26 13¾	24 8	58 32½			
○ — 27	19 4 0	18 14 10	42 11	24 43½	22 35½	58 22½	47½	33½	
	Noon		54 47½			58 20	54	36	
— 28	2 37 25	1 47 8	30 49½	25 19½	23 11½	58 20			
	Noon		54 20			58 44½	50	35	
— 29	2 45 49½	1 54 4	31 42	21 25½	19 16½	58 53			
— 30	Noon		53 48¾			59 12	48	33½	
	Noon		53 33½			59 23½	56½	36½	
	2 24 07	1 29 51	36 37½	20 30½	13 15½	59 27			
1773									
h Jan 2	4 6 48	3 7 35½	27 0½	10 19½	8 5½	58 52			
	4 29 13½	3 30 3	24 3½	10 26	8 12½	58 52			
— 4	Noon		53 27½			59 1⅝	52	33	
— 6	17 34 52	16 28 47	30 42½	27 36½	25 14½	60 33⅞	44	34	
	17 41 47	16 35 42	31 38½	27 36½	25 14	60 33⅞	44	34	
— 7	19 40 49	18 34 38	44 39½	27 57½	25 35	60 36½			
	Noon		51 26½			60 40⅝	51	35	
	19 9 38	18 1 56½	42 38½	31 58½	29 42¾	61 18	45	34	
— 8	19 9 38		42 38½	ON 57 E Ship's course S L at 5 miles an hour					
	22 2 24		50 26½				61 22	53 34½	
	16 55 0	15 45 53	28 40½	34 30½	32 15½	61 36	49½	33½	
— 9	Noon		50 15			61 36	56½	35	
	19 18 16½	19 22 34½	44 2½	35 56	33 42	61 54			
— 10	19 18 16½		44 2½	ON E by E Ship's course S at the rate of 3 miles an hour					
	23 57 10½		42 10				62 0	55 34	
— 11	16 52 5	16 39 46	29 2¾	36 58½	34 45½	63 2¾	46½	34	
	16 38 17½	15 24 22½	27 37½	38 5½	35 53½	64 11½	60	35	
— 12	19 16 27½	18 2 23½	42 26½	37 53½	35 41½	64 11½			
	Noon		47 11½			64 11½	56	35	
— 13	18 14 22	16 58 45	37 20½	38 35	36 24½	64 16½	49	34½	
	Noon		46 56			64 16½	50½	38	
									Bad horizon

1773.	Time by Watch K.		Time by Watch A. No. 1.		Altitude of the Sun's L.	Longitude by K.		Longitude by A.		Latitude S.	Thermom.		No. of Obs.	Remarks.
	H	M	H	M		°	'	°	'		A.	B.		
Jan. 13.	17	0 24½	15	43 6½	29 55½	38 47½	36 40½	64 1					6	
— 14.	17	9 5	15	51 47	30 49½	38 44	36 36½	64 1					6	
	Noon.				47 5			63 57	57	35½				
	1	39 20½	0	21 26	29 27½	39 7½	37 01½	63 54½					5	
	17	1 25	15	42 25½	30 4½	39 7½	37 2½	63 35½	52	35			5	
	18	8 45	16	49 58½	36 55½	38 55½	36 51½	63 32					6	
	18	30 50	17	11 23½	38 59½	39 4½	37 0½	63 32					6	
— 15.	Noon.				47 18			63 32½	58½	42				
	3	28 41½	2	8 56½	17 26	38 51½	36 49½	63 31½					5	
	19	6 49½	17	45 57	41 3½	38 43½	36 42½	64 23					5	
— 16.	Noon.				46 8½			64 31	56	35				
	3	22 45	2	1 16½	18 11	38 55½	36 55½	64 55½	60	34½			6	
	18	32 39	17	10 7½	36 57½	38 52	36 53½	66 21½					5	
— 17.	Noon.				43 51			66 36½	51½	34				Very foggy.
	18	9 23	16	45 18	34 53½	38 49½	36 51½	66 14	46	32			5	Ditto.
— 18.	Noon.				44 16			65 59½	52	34½				Exceeding foggy.
	2	43 24½	1	18 46	22 7½	38 43½	36 45½	65 36½					5	
	17	18 19	15	52 44	36 44½	39 18½	37 21½	64 41½	45	35			3	
— 19.	Noon.				45 33½			64 29	51½	35				
	2	41 36½	1	15 24	21 47½	39 33½	37 36½	64 17½					4	
	16	56 9	15	29 1	28 29	39 36½	37 39½	64 16	48	33½			5	
— 20.		1 32 13½	0	4 31½	29 3½	39 53½	37 53½	63 47					5	
	16	55 17	15	26 33½	28 49	40 28	38 31½	63 1½	43	35			3	Very cloudy.
— 21	Noon.				46 50½			62 46½	53½	35½				
	21	53 6½			46 17½	Ship's Course E. N. E. 4 knots. O N. 20° E. at 2d Observation.							5	
	23	46 10			38 58			62 47½					5	
	2	44 54	1	16 30	20 15½	41 15½	39 20½	62 28½	56½	35½			7	
	17	10 26½	15	40 8½	31 33½	42 21½	40 40½	61 48	44	35½			5	
— 22.	Noon.				47 48½			61 33½	54	37½				
					47 50			61 32½						
	16	59 49	15	27 56½	31 44½	45 13	43 18	60 21½	47	35			6	
— 23	Noon.				49 5½			60 2½	51½	36½				
	1	19 13	23	46 50	27 50	46 33½	44 38½	59 41½					5	
— 24	Noon.				50 29½			58 24½	51½	34½				
	0	51 44½	23	17 53	30 5½	49 14½	47 19½	57 59½	55	34½			4	
— 26.		16 9 21½	14	30 16	28 1½	50 41	48 48½	56 46	41	35½			5	
	17	44 42½			40 11½	Ship's Course N. E. by E. 4 knots.							4	
	20	18 47			51 3½			56 31					4	
— 27.	Noon.				51 40½			56 28	51½	35				
	23	48 11½	22	9 33	37 15½	51 10	49 18½	56 15	52	36			5	
	23	57 47½	22	19 9	15 59½	51 18½	49 26½	56 14½	52	36			3	
	0	23 52½	22	44 14	32 48½	51 8½	49 16½	56 13½	52	36			5	
	2	24 36	0	45 50½	16 4½	51 9½	49 18½	56 6½					5	
	16	5 55½	14	26 13½	28 8½	51 41½	50 5	55 1	47	38			5	

1773	Time by Watch K	Time by Watch A No 3	Altitude of the C & L I	Longi- tude East by K	Longi- tude East by A	Latitude S		The m		Remarks
	H	H				A	B	A	B	
14 Jan 28	Noon		53 24½			54 28½				Ramfden's Quad Dollond's Quad
29	Noon		53 24			54 28½	51 36			
30	16 9 16	14 24 35	55 7½			52 29	53 38			
			31 46½			51 13	58 38			
31	20 33 31½		55 55½	ON 37° W at the 2d Observat Ship's Course N N E 5 m an h		50 50½				Ramfden's Quad Dollond's Quad
	2 53 6½		43 14½							
1 Feb 1	15 46 30	14 0 11	28 33½	57 29½	55 46	49 17½	47 40			
	Noon		57 54½			48 51	54 11			
2	17 18 15½	15 30 11½	44 4½	59 38	57 56½	48 33½	48 13			
	Noon		57 52½			48 36½	56 15			
	0 5 20½	22 16 48½	30 42½	60 3½	58 22	49 0½	56 15½			
	15 44 39	13 54 59	30 20½	61 19½	59 39½	48 45½	51 13			
3	15 46 1½	13 54 34½	29 17½	59 50	58 14½	49 4	52 42			
4	Noon		56 38½			49 15	56 45			
	0 1 47	22 9 44	31 19½	59 11½	57 38½	49 30	58 44			
	1 48 20½	23 56 9½	14 9½	59 19½	57 45½	49 37½	60 13½			
	16 3 7	14 9 54½	31 15½	59 0½	57 29	49 15½	53 40			
5	Noon		56 28			49 7	59 11			
	0 37 46	22 44 2	25 39½	58 50½	57 18	48 40½	57 41			
6	17 54 17½	15 59 28½	47 42½	58 44½	57 11½	48 6½	51 43			
	23 1 52		40 24½	59 35		48 6	41 4			
7	15 12 57	13 16 46	24 27	61 38½	60 6	48 39½	48 41			
	Noon		56 6½			48 51½	54 44			
	0 23 53	22 27 6	24 56½	62 41½	61 9	49 4½	63 45			
8	18 42 25	16 42 39½	52 23½	64 27		50 0				
9	Noon		54 18			50 1½	57 45			
	15 36 37½	13 35 23	29 19	64 44½	63 18	49 51½	48 40			
	17 1 4	14 59 43½	41 47½	65 59½	64 33½					
10	Noon		53 54			50 6½	52 41			
	23 44 31½	23 42 45	28 11½	68 22½	64 33½	50 23½	53 41			
11	20 54 57½		48 19½	Ship's Course S by E 7 miles an hour ON 42 W at 2d Obs		51 22				
	23 50 37½		27 18½							
	23 50 37½	21 47 12½	27 18½	68 22½	66 58	51 34½				
	14 26 10	12 21 44	20 47½	70 2	68 32	52 28				
	15 18 8	13 14 40	28 42½	70 4½	68 41½	52 31½				
12	15 39 46½	13 35 16	31 39½	70 5½	68 42	52 32½				
	Noon		50 33½			52 47½	56 38			
	23 45 52½	21 40 48	23 56½	70 59½	69 37	52 48½	38			
	13 15 44	11 39 41	15 44½	72 12½	70 50½	53 34½				
	14 22 51½	12 16 43	21 15	72 14½	70 53½	53 37½	48 35			

1773.	Time by Watch K.		Time by Watch A. No. 3.	Altitude of the ☉'s L. L.	Longitude E. by K.	Longitude E. by A.	Latitude S.	Thermom.		No. of Obs.	Remarks.
	H	M						A.	B.		
Feb. 13.	Noon.			49 6 $\frac{1}{2}$			54 54 $\frac{1}{2}$	55 $\frac{1}{2}$	36		
☉ — 14.	23 51 28 $\frac{1}{2}$		21 44 45	21 14 $\frac{1}{2}$	73 25 $\frac{1}{2}$	72 4 $\frac{1}{2}$	54 9 $\frac{1}{2}$	57 $\frac{1}{2}$	38 $\frac{1}{2}$	5	
	15 4 47 $\frac{1}{2}$		12 55 25 $\frac{1}{2}$	29 7 $\frac{1}{2}$	74 23 $\frac{1}{2}$	73 06 $\frac{1}{2}$	55 40 $\frac{1}{2}$	56	36	7	
	17 6 26			41 51 $\frac{1}{2}$	78 28	77 9 $\frac{1}{2}$	56 35 $\frac{1}{2}$	54 $\frac{1}{2}$	35	5	Very hazy.
☽ — 15.	19 39 58 $\frac{1}{2}$			44 2 $\frac{1}{2}$	Ship's course S. S. E. 7 $\frac{1}{2}$ miles an hour.		56 53			4	
	23 38 6			18 27 $\frac{1}{2}$						5	
	16 39 17		14 28 0	29 41 $\frac{1}{2}$	Ship's course E. two miles an hour.		57 4	55	36 $\frac{1}{2}$	5	
☽ — 16.	19 46 4			42 36 $\frac{1}{2}$			57 16	46	35	5	
☽ — 17.	13 43 18		11 28 58	19 36	82 47	81 34 $\frac{1}{2}$	57 53 $\frac{1}{2}$	44	32	4	
	13 59 51 $\frac{1}{2}$		11 45 34	21 49	82 54 $\frac{1}{2}$	81 42	57 54	44	32	2	
☽ — 18.	Noon.			43 21			57 57	53	33		
	23 43 28 $\frac{1}{2}$		21 28 34	14 32 $\frac{1}{2}$	84 32 $\frac{1}{2}$	83 7 $\frac{1}{2}$	58 2 $\frac{1}{2}$	56 $\frac{1}{2}$	33	5	
☽ — 19.	Noon.			42 27 $\frac{1}{2}$			58 30	52 $\frac{1}{2}$	35		
	13 48 1		11 30 32 $\frac{1}{2}$	23 35 $\frac{1}{2}$	90 43 $\frac{1}{2}$	89 33 $\frac{1}{2}$	58 47 $\frac{1}{2}$	43 $\frac{1}{2}$	32 $\frac{1}{2}$	5	
☽ — 20.	Noon.			41 49 $\frac{1}{2}$			58 46 $\frac{1}{2}$	54 $\frac{1}{2}$	35		Ramden's Q.
				41 48 $\frac{1}{2}$			58 47 $\frac{1}{2}$				Dolland's Q.
☉ — 21.	23 33 10		21 15 2	11 26 $\frac{1}{2}$	91 38 $\frac{1}{2}$	90 28 $\frac{1}{2}$	58 46 $\frac{1}{2}$			9	
☽ — 23.	Noon.		10 54 21	19 56 $\frac{1}{2}$	93 21 $\frac{1}{2}$	92 14	59 18 $\frac{1}{2}$	45 $\frac{1}{2}$	34	3	Very cloudy.
				38 29 $\frac{1}{2}$			61 1 $\frac{1}{2}$	54 $\frac{1}{2}$	35		Ditto.
☽ — 24.	15 37 27			33 19	Sun N. 80 E. Ship's course S. E. 2 miles an hour.		60 49	56	36 $\frac{1}{2}$	5	Very hazy.
☽ — 25.	18 11 7 $\frac{1}{2}$			37 34 $\frac{1}{2}$						4	
	22 17 39		19 51 19	17 16 $\frac{1}{2}$	95 27 $\frac{1}{2}$	94 26 $\frac{1}{2}$	60 49 $\frac{1}{2}$	57 $\frac{1}{2}$	36 $\frac{1}{2}$	5	
	12 40 59 $\frac{1}{2}$		10 13 37	16 2 $\frac{1}{2}$	97 7 $\frac{1}{2}$	96 8 $\frac{1}{2}$	60 58 $\frac{1}{2}$			4	
☽ — 26.	Noon.			37 15 $\frac{1}{2}$			61 8	57	36 $\frac{1}{2}$		
☽ — 27.	12 52 6 $\frac{1}{2}$		10 21 27 $\frac{1}{2}$	20 5	103 41 $\frac{1}{2}$	102 46	60 3	45	35 $\frac{1}{2}$	4	
☉ — 28.	Noon.			37 41 $\frac{1}{2}$			59 57 $\frac{1}{2}$	50 $\frac{1}{2}$	36 $\frac{1}{2}$		
☽ March 3.	Noon.			36 14 $\frac{1}{2}$			60 16 $\frac{1}{2}$	55	38		
	19 9 58		16 34 17	29 0 $\frac{1}{2}$	110 5 $\frac{1}{2}$	109 11	60 13 $\frac{1}{2}$			5	
☽ — 5.	Noon.			35 6 $\frac{1}{2}$			60 38 $\frac{1}{2}$	55 $\frac{1}{2}$	37 $\frac{1}{2}$		
	19 44 27 $\frac{1}{2}$		17 5 24	21 58	116 58 $\frac{1}{2}$	116 0	60 26 $\frac{1}{2}$				
☽ — 6.	20 37 31		17 56 38	15 11 $\frac{1}{2}$	118 34 $\frac{1}{2}$	117 47 $\frac{1}{2}$	59 56 $\frac{1}{2}$	54	37	7	
☉ — 7.	11 8 12		8 24 33 $\frac{1}{2}$	20 27 $\frac{1}{2}$	120 35	119 53 $\frac{1}{2}$	59 44	46 $\frac{1}{2}$	35 $\frac{1}{2}$		
☽ — 8.	Noon.			34 51 $\frac{1}{2}$			59 44	54 $\frac{1}{2}$	40		Dolland's Q.
				34 52			59 43 $\frac{1}{2}$				Ramden's Q.
	19 48 57 $\frac{1}{2}$		17 4 43	19 8	120 39 $\frac{1}{2}$	120 6 $\frac{1}{2}$	59 44 $\frac{1}{2}$			5	
☽ — 9.	Noon.			35 17 $\frac{1}{2}$			58 55 $\frac{1}{2}$	51 $\frac{1}{2}$	37		
☽ — 10.	Noon.			35 43			58 6	48 $\frac{1}{2}$	35		
	21 12 30 $\frac{1}{2}$		8 24 7 $\frac{1}{2}$	17 47	120 15 $\frac{1}{2}$	128 34 $\frac{1}{2}$	57 53 $\frac{1}{2}$	44	35	4	
☽ — 11.	15 46 13			34 54 $\frac{1}{2}$	Ship's course S. E. 6 $\frac{1}{2}$ miles an h. ☉ N. 17° W. at 2d Observat.		58 10 $\frac{1}{2}$			4	
	17 7 31			30 52 $\frac{1}{2}$						4	

1773	Time by Watch K	Time by Watch A No 3	Altitude of the ☉ L L	Longi- tude East by K	Longi- tude East by A	Latitude South	Therm		O	R mark
	H	H					A	R		
4 March 11	10 44 30	7 54 29	14 28 ¹⁰	130 49 ¹⁰	130 10 ¹⁰	58 55 ¹	47	47	5	
2 — 12	Noon		34 7			58 55 ¹	56	39		
5 — 13	Noon		33 57			58 12	53	36		
18 32 33		15 40 2	20 41 ¹⁰	133 14 ¹⁰	132 37 ¹⁰	58 43 ¹	3	5	5	
O — 14	Noon		33 54			58 21 ¹	51	33		
18 37 54		15 43 15	18 45 ¹	135 52 ¹	135 17 ¹	58 23			5	
11 56 21		9 1 20	24 41 ¹⁰	138 32 ¹	137 58 ¹	58 58 ¹	41	31	5	
2 — 15	Noon		32 48			59 4 ¹	50	31		Rumfl n Q
			32 47 ¹⁰			59 4 ¹				Dillon Q
	10 9 28	7 13 0	14 7 ¹⁰	141 21 ¹	140 48 ¹	58 52 ¹⁰	41	33	1	
	12 22 20	9 25 45	27 42 ¹⁰	141 49 ¹⁰	141 15 ¹⁰	58 52 ¹⁰			4	
	12 30 43	9 34 9	28 18 ¹⁰	141 45 ¹⁰	141 11 ¹⁰	58 52 ¹⁰			6	
8 — 16	Noon		32 37			58 51 ¹⁰	53	45		
18 57 8		16 0 7	15 56 ¹⁰	143 7 ¹⁰	142 34 ¹⁰	58 53	55	36	5	
19 8 21			8 33 ¹⁰	146 43 ¹⁰		58 3			1	
11 — 18	Pocket Watch	14 48 35	33 26 ¹⁰	Ship's course N E. by N 6 ¹ miles an hour		56 26 ¹⁰			2	
		16 31 53	26 36 ¹⁰						5	
17 50 26		14 50 16	17 19 ¹⁰	149 30 ¹	148 59 ¹	56 8				
2 — 19	9 37 30	6 34 43	16 45 ¹⁰	153 3 ¹	152 34	53 43 ¹⁰	51	45	5	
5 — 20	Noon		36 31 ¹⁰			53 22 ¹⁰	54	45		
	17 56 48	14 53 27	14 29 ¹⁰	154 16 ¹⁰	153 47 ¹⁰	52 48			5	
O — 21	10 45 24	7 39 16	29 18 ¹⁰	158 14 ¹	157 48 ¹	50 11 ¹			4	
2 — 22	Noon		39 12 ¹⁰			49 55	56	47		
	17 15 34	14 8 36	18 20 ¹⁰	158 52 ¹⁰	158 27 ¹⁰	49 30			5	
	9 7 6	5 59 19	17 57 ¹⁰	160 14 ¹⁰	159 52 ¹	48 3 ¹	51	47		
8 — 23	Noon		40 58 ¹⁰			47 45 ¹	58	49		
	17 13 24	14 5 3	17 44 ¹⁰	161 8 ¹⁰	160 45 ¹⁰	47 30	58	49	5	
16 58 51		13 48 39	18 53 ¹⁰	163 9 ¹	162 47 ¹⁰	46 23 ¹	60	54	1	
2 — 25	Noon		41 42 ¹⁰			46 14 ¹⁰	58	54		
	8 40 55	5 28 12	16 52 ¹⁰			45 51	56	52	4	
5 — 27										

We got moored in Dusky Bay, New Zealand; but the place was so inconvenient, the weather so bad, and I had so much wood to clear away before I could erect my Observatory, that I did not get the Clock agoing before that day seven night after wards. On 8, April the 6th, I compared both Watches with it, (See p 25 and 26) and continued to do so every day until the 22d, from whence I found that Mr Kendall's was gaining at the rate of 6.726 a day on mean solar time and that of Mr Arnold's (No 3) 101.051. Reckoning from the Cape of Good Hope, at the rates they were going when there, the former made the Longitude of the Observatory, at this place, 165° 12' 37", and the latter 165° 38' 35" East of Greenwich. If we reckon all the way from Drake's Island, in Plymouth Sound at the rates the Watches were going when at Greenwich, Mr Kendall's will give the Longitude of the Observatory 168° 3' 16" East of Drake's Island and Mr Arnold's 247° 51' 24", that is 163° 47' 9", and 243° 35' 16" East of Greenwich. As the Watch made by Mr Arnold stopped at the Cape of Good Hope, it may be necessary to shew how I have made these deductions from it. On No

1773.	Time by Watch K.	Time by Watch A. No. 3.	Altitude of the ☉'s L. L.	Longi- tude East by K.	Longi- tude East by A.	Latitude S.	Thermom.		No. of Obs.	Remarks.
	H	H	°	°	°	°	A.	B.		
	<p>veniber 14th, at noon, it was 4 h. 12' 33", 61 too slow for mean time at the Cape, and it was then losing at the rate of 90", 642 a day; wherefore it ought to have been too slow for mean time on the 18th, at noon, by 4 h. 18' 36", 2; but as I then found it only 1 h. 29' 39", 2 too slow, it is plain that it had been set faster than it would otherwise have been by 2 h. 48' 57". If from this we subtract 1 h. 5' 36", what it would have been too slow according to its Greenwich rate of going, and what it was set too slow for mean time at Drake's Island, there will remain 1 h. 43' 21" for what it should be too fast for mean time at Drake's Island on 8 April the 6th, at noon, by the time at Dusky Bay; which being added to 14 h. 48' 4", 6, what it was that day actually too slow for mean time at that place, gives 16 h. 31' 25", 6 = 247° 51' 24" for the Longitude of Dusky Bay, East of Drake's Island, as above.</p> <p>It appeared, moreover, that the Watch made by Mr. Kendall was too slow for mean time at Dusky Bay, on 8 April 25th, at noon, by 11 h. 13' 7", 3; and that made by Mr. Arnold, (No. 3.) by 15 h. 20' 5", 8. On these suppositions, and that the true Longitude of the Observatory was 166° 18' East, I computed the Longitudes of the ship between this place and Queen Charlotte's Sound.</p>									
8 May 11.	Noon.		26 21½			45 34½	58	44½		
4 — 13	16 51 49½	12 17 40	5 32½	165 55	165 35½	45 26½			5	
8 — 14	10 18 0		22 12½	170 18½		41 54			4	
	Noon.		29 17½			41 52½	65½	58		
	16 38 36½	11 59 39½	6 20½	170 28	170 1½	41 49			5	
5 — 15	16 47 33	4 7 35	11 17½	170 59½	170 29½	41 19	61	53	5	
10 — 16	Noon.		29 43½			41 13	62	56		
	8 19 47	3 36 20½	8 9½	172 38½	172 4½	40 25½	56	51½	5	
	9 50 45		20 54½	172 35½		40 29½				
3 — 17	Noon.		29 55			40 33½				
			29 55½			40 33½				
3 — 18	Noon.		29 12½			41 3				

Although we anchored in Queen Charlotte's Sound the 18th, I did not attempt carrying any Instruments on shore there before the 24th, being all that time in daily expectation of leaving it; but seeing then no likelihood of going soon, I carried the Astronomical Quadrant on shore at a beach near the ship, and was fortunate enough to get equal altitudes that day, the 30th, and June 3, (see p. 48, 49.) I noted the times by Mr. Kendall's Watch, and compared Mr. Arnold's (No. 3.) with it. The comparisons were,

1773.	Watch K.		Watch A.	
	H	'	H	'
3 May 24.	13	46	8	50
10 — 30.	15	3	9	57
4 June 3.	12	45	7	32

1773	Time by Watch K	Apparent Time	Altitude of the ☉ & L L	Latitude S	Longitude East by K	Thermon		No of Obs	Remarks
	H	H				A	B		
	<p>Hence I found that the former was now gaining at the rate of 9,05 and the latter losing at the rate of 94^h, 158 a day on mean time. The former, allowing its Dusky Bay rate, gave the difference of Longitude between this place and that 7 26 30 and allowing its rate of going as determined now 7 45 54 that is 173 44 39 and 174 4 3" East of Greenwich. If the rate which Mr Arnold's Watch was going at when at Dusky Bay be allowed it will make the difference of Longitude between those places 6 40 56" and by allowing the rate it was going at here 7 31 24 that is 172 59 5", and 173 52 33 between this place and Greenwich. If then Greenwich rates be allowed them all the way from England, the Watches will place Queen Charlotte's Sound 174 7 $\frac{1}{2}$ and 271 50 33 East of Drake's Island respectively; that is 169 51 $\frac{1}{2}$ and 267 34 25 East of Greenwich.</p> <p>May 28th, that lock of Mr Arnold's Watch, which Lieutenant Cooper had the key of, got spoiled; I suppose by a wrong key being given, by mistake to Lieutenant Pickersgill, who attended that day for Lieutenant Cooper to open the box so that on the 29th it could not be opened. After unlocking the other two locks, a screw driver was introduced between the box and lid, and the lock forced by turning the screw driver round. I am certain no injury did, or could possibly happen to the Watch by doing this. The lock being damaged it was taken off and the Watch trusted under the other two until June 3, when we got it repaired and put on again, and Mr Cooper locked it as before. I have been thus circumstantial, because when we came to wind the Watch up, June 7th, at noon, I found the fusee would not turn, and we were obliged to let the Watch go down, and stand over afterwards.</p> <p>Mr Kendall's Watch was too slow for mean time at Queen Charlotte's Sound, on June 3, at noon, by 11 h 38 17^h.97; and in computing the Longitude of the ship by this Watch, in our run from hence to Otaheite, I have supposed its rate to be as above mentioned, and that the true Longitude of the Beach in Queen Charlotte's Sound, where I observed, is 173 46 1 $\frac{1}{2}$, which results from Mr Baily's Observations made here; and the experiments mentioned on p 49.</p>								
June 7		Noon	25 55 $\frac{1}{2}$	41 8 $\frac{1}{2}$		59 $\frac{1}{2}$	55		
8	9 6 31 $\frac{1}{2}$	Noon	11 36 $\frac{1}{2}$	41 48 $\frac{1}{2}$	174 39 $\frac{1}{2}$	56 51 $\frac{1}{2}$	5		
9	16 1 39	Noon	25 2 $\frac{1}{2}$	41 56 $\frac{1}{2}$		58 52			
10	9 41 34 $\frac{1}{2}$	Noon	6 30 $\frac{1}{2}$	42 6 $\frac{1}{2}$	175 20	60 $\frac{1}{2}$	52	3	
11		Noon	24 1	42 57 $\frac{1}{2}$		58 $\frac{1}{2}$	55		
12	9 51 59	Noon	15 43 $\frac{1}{2}$	43 49 $\frac{1}{2}$	178 49 $\frac{1}{2}$	57 53 $\frac{1}{2}$	6		
13	8 53 33 $\frac{1}{2}$	Noon	21 54	43 54 $\frac{1}{2}$		60 $\frac{1}{2}$	54		
14	21 16 18	Noon	15 52 $\frac{1}{2}$	46 8					
15		Noon	10 42 $\frac{1}{2}$	46 41 $\frac{1}{2}$	185 17 $\frac{1}{2}$			5	Very uncertain on account of the Latitude
16	14 30 0	Noon	19 44 $\frac{1}{2}$	46 46 $\frac{1}{2}$		48 $\frac{1}{2}$	56	6	
17	9 27 33	Noon	9 32 $\frac{1}{2}$	46 52	185 29 $\frac{1}{2}$	48	56	5	
18	8 38 16	Noon	4 20	46 22				4	
19	21 9 41	Noon	20 8 $\frac{1}{2}$	46 18 $\frac{1}{2}$		56 $\frac{1}{2}$	49 $\frac{1}{2}$		
20	14 10 0	Noon	10 27 $\frac{1}{2}$	45 59 $\frac{1}{2}$	187 43 $\frac{1}{2}$	54 $\frac{1}{2}$	49 $\frac{1}{2}$	5	
	8 8 39	Noon	20 30 $\frac{1}{2}$	45 54		55	48		
		Noon	11 14 $\frac{1}{2}$	45 48	188 30 $\frac{1}{2}$	55	47 $\frac{1}{2}$	5	
		Noon	11 0 $\frac{1}{2}$	44 26	194 0 $\frac{1}{2}$	51 $\frac{1}{2}$	48 $\frac{1}{2}$	5	

ON BOARD THE RESOLUTION.

239.

1778.	Time by Watch K.		Apparent Time.	Altitude of the ☉ L. L.	Latitude S.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
	H	M					A.	B.		
June 21.			Noon.	21 56 $\frac{1}{2}$	44 26		53 $\frac{1}{2}$	50 $\frac{1}{2}$		
♂ — 22.	8	4	41	21 5 31	44 34 $\frac{1}{2}$	195 45	53	50 $\frac{1}{2}$	5	
			Noon.	21 47 :	44 36		55 $\frac{1}{2}$	52 $\frac{1}{2}$		
	11	12	20 $\frac{1}{2}$	21 42 $\frac{1}{2}$	44 35 $\frac{1}{2}$	Ship's course East, 2 miles an hour.			4	
	13	46	55	11 32 $\frac{1}{2}$					5	
	13	46	55	21 49 53	44 37	196 0 $\frac{1}{2}$			5	
♀ — 23.			Noon.	21 46	44 37 $\frac{1}{2}$		56	50 $\frac{1}{2}$		
	13	53	18	3 1 24	44 37 $\frac{1}{2}$	197 23			5	
	14	6	46	3 14 56 $\frac{1}{2}$	44 37 $\frac{1}{2}$	197 24			7	
♀ — 25.	8	7	1 $\frac{1}{2}$	21 10 52	43 3 $\frac{1}{2}$	196 34 $\frac{1}{2}$	58	54	6	Very cloudy.
♂ — 26.			Noon.	23 17 $\frac{1}{2}$	43 9 $\frac{1}{2}$		60	55 $\frac{1}{2}$		
	13	59	16	3 4 32	43 17 $\frac{1}{2}$	196 58 $\frac{1}{2}$			3	Very uncertain.
⊙ — 27.			Noon.	23 55 $\frac{1}{2}$	42 34		59	53 $\frac{1}{2}$		
♂ — 28.			Noon.	24 7 :			60	52 $\frac{1}{2}$		Very foggy.
	6	49	18	19 58 28	42 37 $\frac{1}{2}$	198 11 $\frac{1}{2}$	58	51	5	
	7	57	37	21 7 5	42 39 $\frac{1}{2}$	198 14 $\frac{1}{2}$			3	Very cloudy.
♂ — 29.			Noon.	23 48 $\frac{1}{2}$	42 46 $\frac{1}{2}$		61 $\frac{1}{2}$	52 $\frac{1}{2}$		
	14	6	56 $\frac{1}{2}$	3 18 42 $\frac{1}{2}$	42 54	198 35 $\frac{1}{2}$			5	
	7	30	35	20 43 45	43 5 $\frac{1}{2}$	199 15			5	
♀ — 30.			Noon.	23 32 $\frac{1}{2}$	43 6		59	51 $\frac{1}{2}$		
	7	52	47	21 14 6	43 11 $\frac{1}{2}$	201 22 $\frac{1}{2}$	55	48	5	
July 1.			Noon.	23 35	43 7 $\frac{1}{2}$		56	49		Ramsden's Quad.
				23 34 $\frac{1}{2}$	43 7 $\frac{1}{2}$					Dollond's ditto.
	13	37	7	2 59 18	43 7 $\frac{1}{2}$	201 36 $\frac{1}{2}$	57	49 $\frac{1}{2}$	5	
♀ — 2.	6	51	48 $\frac{1}{2}$	20 17 51 $\frac{1}{2}$	43 2 $\frac{1}{2}$	202 40	52 $\frac{1}{2}$	45	6	
			Noon.	23 44 $\frac{1}{2}$	43 2 $\frac{1}{2}$		56 $\frac{1}{2}$	47		
	14	3	30 $\frac{1}{2}$	3 31 7	43 2 $\frac{1}{2}$	203 1 $\frac{1}{2}$			6	
	7	18	54 $\frac{1}{2}$	20 49 54	43 14	203 57 $\frac{1}{2}$	53	48	5	
♂ — 3.			Noon.	23 33 $\frac{1}{2}$	43 18		56 $\frac{1}{2}$	47 $\frac{1}{2}$		
	13	51	27	3 25 50	43 22 $\frac{1}{2}$	204 42 $\frac{1}{2}$	61	49	5	
	9	24	4 $\frac{1}{2}$	21 26 $\frac{1}{2}$						
⊙ — 4.			Noon.	22 58	43 58		54	48 $\frac{1}{2}$		
	13	48	54	3 25 12	43 48	205 23 $\frac{1}{2}$	55	49	6	
	7	41	24	21 22 50	43 18	206 45			5	Cloudy, and great sea.
	7	41	24		43 11 $\frac{1}{2}$	♂ N. 30 E. at 1st obs. and N. 44 W. at 3d. Ship's course E. N. E. 4 $\frac{1}{2}$ miles an h.			5	
♂ — 5.	10	45	2	23 36 $\frac{1}{2}$					3	Ditto.
	12	54	20	14 32 $\frac{1}{2}$					5	
	12	54	20	2 38 45 $\frac{1}{2}$	43 5	207 30 $\frac{1}{2}$	55 $\frac{1}{2}$	49 $\frac{1}{2}$	5	More certain.
	7	3	13 $\frac{1}{2}$	20 48 10	42 19 $\frac{1}{2}$	207 50 $\frac{1}{2}$			5	
♂ — 6.			Noon.	24 59 $\frac{1}{2}$	42 7 $\frac{1}{2}$		56 $\frac{1}{2}$	51		
	13	26	15	3 13 26 $\frac{1}{2}$	41 55 $\frac{1}{2}$	208 16 $\frac{1}{2}$			5	
	6	21	44 $\frac{1}{2}$	20 9 31 $\frac{1}{2}$	41 23	208 44 $\frac{1}{2}$	55	51	7	Hazy.
♀ — 7.			Noon.	25 51	41 22		57	52 $\frac{1}{2}$		
	13	37	19	3 27 11	41 22 $\frac{1}{2}$	208 53 $\frac{1}{2}$			5	By Lieut. Clerke.
	7	42	36 $\frac{1}{2}$	21 37 28	41 52 $\frac{1}{2}$	210 29 $\frac{1}{2}$	54 $\frac{1}{2}$	51 $\frac{1}{2}$	5	

1773	Time by Watch K		Apparent Time	Altitude of the ☉ or L L	Latitude South	Longitude East by K	Thermom		No of Obs	Remarks
	H	M	H				A	B		
July 7	7	42 36½		17 29 ¹⁰	41 58	O N 42 L at 11 ^h observat Ship's course L S I 6 miles an hour			5	
4 — 8	10	51 9		24 20 ¹⁰					6	
		13 53 43	3 52 8	6 2 ⁷	42 6 ¹⁰	211 14½	58	51½	4	
		6 43 29½		11 8 ⁷	42 35 ¹⁰	212 43½			5	
8 — 9			Noon	24 47	42 39 ¹⁰		54 ¹⁰	51½		
		13 25 16½		8 39 ¹⁰	42 46½	213 13½	58	51	4	
		6 28 57	20 42 1½	9 59½	43 27 ¹⁰	215 2½			6	
5 — 10		6 44 49½		13 8½	43 33 ¹⁰	217 28			6	
O — 11			Noon	24 7½	43 34½		54	47		
		12 40 9	3 5 3½	11 41½	43 32½	218 5	55½	47	5	
		6 14 37½	20 44 ½	10 37½	43 17½	219 23	52	47	9	
		6 52 53	21 23 28	15 16½	43 17½	219 33½			8	
12 — 12			Noon	24 33 ¹⁰	43 15 ¹⁰		54	49		
		13 2 7½	3 34 12½	8 14	43 14½	219 57	56	49	6	Dollond's Quad
		5 46 59	20 21 3	7 46½	43 2½	220 29	53	47½	6	Ramden's ditto
		7 3 32	21 38 27	17 13½	43 2½	220 42½			6	
8 — 13			Noon	24 56	43 2		56½	49		
		13 4 56½		7 34½	42 57 ¹⁰	221 2 ¹⁰	57	49	4	Dollond's Quad
8 — 16			Noon	27 1½	41 24 ¹⁰		51	46		
		12 40 33	3 28 46	10 53½	41 11	224 14½	51 ¹⁰	46½	4	Ramden's ditto
		6 22 48½	21 17 1½	17 51½	39 53	225 53½			5	Very cloudy
6 — 17			Noon	28 51½	39 43 ¹⁰		48	44½	4	
		12 39 49	3 35 49	11 7 ¹⁰	39 19	226 15½	49½	45		
		5 2 41	19 58 53	8 2½	38 4 ¹⁰	226 20½	49	47½	4	
O — 18			Noon	30 49½	37 55½		51	49½	7	
12 — 19		12 52 23½	3 41 47½	18 11	37 49	226 24½	53½	49		
			Noon	32 21½	36 34½		55½	57	7	
		13 1 11½	3 58 30	9 36 ¹⁰	36 25½	226 41½	57½	53		
		4 55 45	19 52 29½	8 38 ¹⁰	35 38	226 35 ¹⁰			7	
8 — 20			Noon	33 47	35 20		58½	58½	5	
8 — 21		13 0 11	3 53 16½	13 2½	32 24	225 46 ¹⁰	63	61		
11 — 22		4 56 47	19 48 2	10 23½	31 23½	225 19½	62½	61	5	
			Noon	38 24½	31 5 ¹⁰		64½	63	6	Very hazy
		13 9 47	3 59 59	12 55 ¹⁰	30 47½	225 5 ¹⁰	65	62½		
		4 44 28		8 40½	29 34	224 41½	63	61 ¹⁰	6	
9 — 23			Noon	40 19 ¹⁰	29 22½		66	63 ¹⁰	7	
O — 25		10 20 1		38 8						Cloudy
		12 14 51		24 30 ¹⁰	29 43½	223 20½	O N 46 W at 2d Observat Ship's course N E by L 4 miles an hour			Cloudy
		5 20 45	20 6 4	15 28½	28 58½	224 4				
12 — 26			Noon	41 27½	28 52½		68	66	7	Cloudy
		12 2 14	2 48 47	26 42	28 46	224 20	69½	66 ¹⁰		
							71	67	5	

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1773.	Time by Watch K.		Apparent Time.	Altitude of the ☉, L. L.	Latitude South.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
	H	M					A.	B.		
D. July 26.	12	27	5 $\frac{1}{2}$	3 13 45	22 41	224 21 $\frac{1}{2}$			6	
8 ——— 27.	4	49	5 $\frac{1}{2}$	19 37 3 $\frac{1}{2}$	10 43 $\frac{1}{2}$	224 31 $\frac{1}{2}$	69	61 $\frac{1}{2}$	5	
			Noon.	42 40	27 53 $\frac{1}{2}$		70	67 $\frac{1}{2}$		
	11	50	19 $\frac{1}{2}$	2 37 43	29 12 $\frac{1}{2}$	224 32 $\frac{1}{2}$	70	69	6	
8 ——— 28.	4	55	38		11 1 $\frac{1}{2}$	224 13 $\frac{1}{2}$	69	66	4	Cloudy.
			Noon.	43 4	27 43		70	69		
	12	18	25	3 2 24 $\frac{1}{2}$	25 32 $\frac{1}{2}$	223 46 $\frac{1}{2}$	70	68	6	
4 ——— 29.	5	7	1 $\frac{1}{2}$	19 47 46	13 10 $\frac{1}{2}$	222 58 $\frac{1}{2}$	69 $\frac{1}{2}$	68	7	Very cloudy.
			Noon.	43 30 $\frac{1}{2}$	27 30 $\frac{1}{2}$		70 $\frac{1}{2}$	69 $\frac{1}{2}$		
	12	51	57 $\frac{1}{2}$	3 34 21 $\frac{1}{2}$	12 22	223 24	74	70	6	Hazy.
8 ——— 30.	5	12	53 $\frac{1}{2}$	19 57 55	15 29 $\frac{1}{2}$	224 5			5	
			Noon.	44 11	27 4 $\frac{1}{2}$		71 $\frac{1}{2}$	71		
8 ——— 31.			Noon.	45 10 $\frac{1}{2}$	26 19 $\frac{1}{2}$		69 $\frac{1}{2}$	68		
	13	47	41	4 36 28 $\frac{1}{2}$	9 31 $\frac{1}{2}$	225 3 $\frac{1}{2}$	69 $\frac{1}{2}$	68	8	
o Aug. 1.	4	39	55	19 30 55	12 18 $\frac{1}{2}$	225 39	68 $\frac{1}{2}$	68	5	
D ——— 2.			Noon.	48 45 $\frac{1}{2}$	23 13 $\frac{1}{2}$		69 $\frac{1}{2}$	69 $\frac{1}{2}$		
	13	6	48	3 57 30	18 54	225 34 $\frac{1}{2}$			5	
	4	30	38	19 22 13	11 5 $\frac{1}{2}$	225 48 $\frac{1}{2}$	70 $\frac{1}{2}$	69 $\frac{1}{2}$	5	
8 ——— 3.			Noon.	50 7	12 8 $\frac{1}{2}$		71	71 $\frac{1}{2}$		
	13	41	55		12 7 $\frac{1}{2}$	225 53 $\frac{1}{2}$	73 $\frac{1}{2}$	72 $\frac{1}{2}$	5	
	4	40	54	19 32 43	13 47 $\frac{1}{2}$	225 53 $\frac{1}{2}$	72	72	5	
8 ——— 4.			Noon.	51 13	21 18		73 $\frac{1}{2}$	74		
	13	34	53 $\frac{1}{2}$	4 28 6	13 46 $\frac{1}{2}$	226 14 $\frac{1}{2}$			5	
	6	13	27	21 10 3 $\frac{1}{2}$	33 32 $\frac{1}{2}$	227 21 $\frac{1}{2}$	77	76 $\frac{1}{2}$	5	
4 ——— 5.			Noon.	52 7 $\frac{1}{2}$	20 29 $\frac{1}{2}$					
	13	59	24 $\frac{1}{2}$	4 58 22 $\frac{1}{2}$	7 43 $\frac{1}{2}$	227 41 $\frac{1}{2}$	80	77 $\frac{1}{2}$	5	
	4	34	33 $\frac{1}{2}$	19 34 28 $\frac{1}{2}$	15 3 $\frac{1}{2}$	227 56 $\frac{1}{2}$	76 $\frac{1}{2}$	77	3	
8 ——— 6.			Noon.	53 16	19 47 $\frac{1}{2}$		77 $\frac{1}{2}$	78		
8 ——— 7.			Noon.	54 28 $\frac{1}{2}$	18 51 $\frac{1}{2}$		73 $\frac{1}{2}$	75		
	5	44	33 $\frac{1}{2}$	20 29 48	27 42	224 18 $\frac{1}{2}$			5	Very cloudy.
o ——— 8.			Noon.	55 32 $\frac{1}{2}$	18 4 $\frac{1}{2}$		74 $\frac{1}{2}$	75		
	5	28	7 $\frac{1}{2}$		22 47 $\frac{1}{2}$	222 5 $\frac{1}{2}$			5	Cloudy.
	6	38	57 $\frac{1}{2}$	21 14 49	37 2 $\frac{1}{2}$	221 57 $\frac{1}{2}$			6	
D ——— 9.			Noon.	56 13	17 41 $\frac{1}{2}$		75 $\frac{1}{2}$	76 $\frac{1}{2}$		
	5	41	42 $\frac{1}{2}$	20 8 34	23 54 $\frac{1}{2}$	219 57 $\frac{1}{2}$	76	74 $\frac{1}{2}$	4	
	6	53	24	21 20 41	38 30 $\frac{1}{2}$	219 49			4	
8 ——— 10.			Noon.	56 58 $\frac{1}{2}$	17 22 $\frac{1}{2}$		76 $\frac{1}{2}$	78 $\frac{1}{2}$		
	13	36	41 $\frac{1}{2}$	4 1 37	21 48 $\frac{1}{2}$	219 13 $\frac{1}{2}$	77	77	5	
	5	1	44 $\frac{1}{2}$	19 21 25	13 53 $\frac{1}{2}$	217 55	75 $\frac{1}{2}$	75	3	Very hazy.
8 ——— 11.			Noon.	57 11 $\frac{1}{2}$	17 17 $\frac{1}{2}$		77 $\frac{1}{2}$	78 $\frac{1}{2}$		
	13	31	25	3 48 56	24 41	217 22 $\frac{1}{2}$			5	
	5	24	54 $\frac{1}{2}$	19 38 9	17 42	216 18 $\frac{1}{2}$	76 $\frac{1}{2}$	76 $\frac{1}{2}$	3	
	5	59	10	20 12 21 $\frac{1}{2}$	25 6	216 17 $\frac{1}{2}$			5	Hazy.
4 ——— 12.			Noon.	57 36 $\frac{1}{2}$	17 11		78	78 $\frac{1}{2}$		
	14	27	32	4 38 3	14 9	215 37	78 $\frac{1}{2}$	79	5	
	5	22	43	19 30 36	10 6 $\frac{1}{2}$	214 57 $\frac{1}{2}$	79	76 $\frac{1}{2}$	7	

1773	Time by Watch K	Apparent Time	Altitude of the Sun L	Latitude S	Longitude by K	Altitude of the Sun L	Latitude S	Longitude by K	Remarks
Aug 13		Noon	57 49	17 16					
	14 28 36	4 34 8	15 6	17 16	211 22	79 11			
	5 42 57		19 10	17 13	213 12	79 15			
14		Noon	58 9	17 15					
	13 59 4	3 57 51	25 11	17 17	212 40	79 19			
	5 13 13	19 7 23	10 59	17 42	211 31	78 17			
	5 37 7	19 31 36	16 26	17 43	211 37	78 17			
15		Noon	57 56	17 46					
	14 40 58	4 32 55	15 26	17 46	210 57	78 18			
	6 1 27		20 49	17 44		78 19			
16		Noon	58 17	17 44					
18	13 59 12	3 48 40	25 12	17 16	210 18	80 80			A little dubious
	8 30 52	22 20 37	50 36	17 46	10 22	79 17			
19		Noon	59 12	17 47					
	13 15 48	3 5 27	34 48	17 16	210 19	81 80			Dollond's Quadrant
	8 37 14	22 27 6	51 51	17 46	10 22	79 17			Ramden's Quadrant
20		Noon	59 31	17 16					
	13 18 55	3 8 40	34 19	17 46	210 10	81 79			At anchor in Otahaiti Bay
	8 47 54	22 37 42	53 37	17 46	210 19	80 81			A little uncertain
21		Noon	59 51	17 46					
22		Noon	60 12	17 46	W W	81 81			Dollond's Quadrant
			60 12	17 46	Cleike				All with Quadrants
			60 11	17 47	Gilbert				made by Ramden
24	13 53 9	3 43 4	27 21	17 46	210 20	81 80			
	5 4 56	18 54 26	9 19	17 29	210 9	76 15			The Bays W & S 6 m
25		Noon	61 31	17 29					
			61 32	17 28		76 14			Dollond's Quadrant
						76 14			Ramden's ditto

About five in the evening we anchored in Matavai Bay, and lost no time in getting up our clocks and instruments. On the 27th I compared the watch K with the clock B, (see p. 52) and found it too slow for mean time on that day at noon by 13 h 50 22.4. Consequently allowing the rate it went at in Queen Charlotte's Sound, it will give the difference of longitude between that place and Point Venus in Otahaiti $36^{\circ} 13' 10''$ or, taking Queen Charlotte's Sound to be in $174^{\circ} 13' 30''$ East, which is the mean result of all the Observations which have been made there both by Mr Bayley and myself, it will place Point Venus $210^{\circ} 26' 40''$ East of Greenwich. If we reckon all the way from Drake's Island at the rate it went at when at Greenwich, before the voyage, it makes Point Venus $206^{\circ} 5' 54''$ East of Drake's Island; that is, $201^{\circ} 49' 47''$ East of Greenwich.

The watch was gaining here at the rate of $8''.863$ a day on mean time, and was too slow for mean time at Point Venus, on 3 August 31 at noon by 13 h 49 47.1 on which suppositions, and that the true longitude of Point Venus is $210^{\circ} 25' 10''$ East, the following longitudes of the ship are computed

ON BOARD THE RESOLUTION.

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1773.	Time by Watch K.	Apparent Time.	Altitude of the Sun L.	Latitude South.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
						A.	B.		
u Sept. 2.		Noon.	64 59 $\frac{1}{2}$	16 51 $\frac{1}{2}$		76 $\frac{1}{2}$	77		
q — 3.		Noon.	65 28 $\frac{1}{2}$	16 45		66 $\frac{1}{2}$	66 $\frac{1}{2}$		
	15 2 50 $\frac{1}{2}$		14 57 $\frac{1}{2}$	16 44 $\frac{1}{2}$	208 51 $\frac{1}{2}$	77 $\frac{1}{2}$	77 $\frac{1}{2}$	5	
b — 4.		Noon.	65 50 $\frac{1}{2}$	16 45		77	77		Dollond's Quadrant.
	14 46 22 $\frac{1}{2}$		65 51	16 44 $\frac{1}{2}$					Ramsden's ditto.
o — 5.	14 49 37		18 50 $\frac{1}{2}$	16 44 $\frac{1}{2}$	208 52 $\frac{1}{2}$	79	78	5	At anchor in Owharre
	15 0 26		18 10 $\frac{1}{2}$	16 44 $\frac{1}{2}$	208 53 $\frac{1}{2}$	79 $\frac{1}{2}$	78 $\frac{1}{2}$	2	harbour in Huahine.
d — 6.		Noon.	15 24 $\frac{1}{2}$	16 44 $\frac{1}{2}$	208 54	79 $\frac{1}{2}$	78 $\frac{1}{2}$	3	
s — 7.		Noon.	66 35 $\frac{1}{2}$	16 44 $\frac{1}{2}$		77 $\frac{1}{2}$	79		
u — 9.	14 35 10		66 52 $\frac{1}{2}$	16 50 $\frac{1}{2}$		79	79 $\frac{1}{2}$		
q — 10.	12 43 22	2 26 56 $\frac{1}{2}$	22 19 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 24 $\frac{1}{2}$	81	81 $\frac{1}{2}$	4	
o — 12.		Noon.	47 32 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 26 $\frac{1}{2}$			5	
	14 41 30	4 25 23	68 46 $\frac{1}{2}$	16 45 $\frac{1}{2}$				2	At anchor in Ohama-
	14 44 33	4 28 31 $\frac{1}{2}$	21 5 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 24 $\frac{1}{2}$	78	77 $\frac{1}{2}$	3	nenno harbour in U-
d — 13.		Noon.	20 21 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 26 $\frac{1}{2}$	78	77 $\frac{1}{2}$	3	liatea.
	15 12 46	4 56 54 $\frac{1}{2}$	69 8 $\frac{1}{2}$	16 45 $\frac{1}{2}$		78	77	2	
q — 15.	15 16 56	5 1 31	13 48 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 25 $\frac{1}{2}$	77	76	4	Cloudy.
q — 17.		Noon.	12 57 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 26 $\frac{1}{2}$	76 $\frac{1}{2}$	75 $\frac{1}{2}$	5	
	13 44 15 $\frac{1}{2}$	3 26 40	70 40 $\frac{1}{2}$	16 51 $\frac{1}{2}$		77	78 $\frac{1}{2}$		
	5 51 57	19 31 44	35 22 $\frac{1}{2}$	16 57 $\frac{1}{2}$	207 47 $\frac{1}{2}$	77	77 $\frac{1}{2}$	5	
b — 18.		Noon.	21 5 $\frac{1}{2}$	17 10 $\frac{1}{2}$	207 6	77	77	5	
	15 7 34	4 44 37	70 38	17 17		78	79		
	5 24 10 $\frac{1}{2}$	18 59 19	17 14 $\frac{1}{2}$	17 22	206 24 $\frac{1}{2}$	77 $\frac{1}{2}$	79 $\frac{1}{2}$	6	
o — 19.		Noon.	13 29 $\frac{1}{2}$	17 36 $\frac{1}{2}$	205 54 $\frac{1}{2}$	77		5	
	15 25 59 $\frac{1}{2}$	4 58 22 $\frac{1}{2}$	70 38 $\frac{1}{2}$	17 40 $\frac{1}{2}$		78	79 $\frac{1}{2}$		
	15 33 48 $\frac{1}{2}$	5 6 20	14 4	17 47	205 25 $\frac{1}{2}$	78 $\frac{1}{2}$	79 $\frac{1}{2}$	5	
d — 20.		Noon.	12 11 $\frac{1}{2}$	17 47	205 28	78 $\frac{1}{2}$	79 $\frac{1}{2}$	5	
	5 43 42 $\frac{1}{2}$		70 38 $\frac{1}{2}$	18 3 $\frac{1}{2}$		80	81 $\frac{1}{2}$		Cloudy.
s — 21.		Noon.	16 32 $\frac{1}{2}$	18 19	203 58	79	78 $\frac{1}{2}$	5	
	15 10 8	4 36 54	70 42 $\frac{1}{2}$	18 22 $\frac{1}{2}$		79 $\frac{1}{2}$	81		
	15 30 29		19 17 $\frac{1}{2}$	18 28 $\frac{1}{2}$	203 41	80 $\frac{1}{2}$	80 $\frac{1}{2}$	5	
	15 43 54		14 45	18 29	203 38	80 $\frac{1}{2}$	80 $\frac{1}{2}$	3	Very cloudy.
	15 55 45	5 22 31	11 25 $\frac{1}{2}$	18 29	203 37	80 $\frac{1}{2}$	80 $\frac{1}{2}$	5	Ditto.
	5 48 43	19 13 26	8 34 $\frac{1}{2}$	18 29 $\frac{1}{2}$	203 41	80 $\frac{1}{2}$	80 $\frac{1}{2}$	5	
q — 22.		Noon.	17 5	18 36 $\frac{1}{2}$	203 8 $\frac{1}{2}$	77	74 $\frac{1}{2}$	5	
	14 40 22 $\frac{1}{2}$	4 2 10	70 47 $\frac{1}{2}$	18 41 $\frac{1}{2}$		77 $\frac{1}{2}$	77 $\frac{1}{2}$		
	6 1 46	19 20 11	17 29 $\frac{1}{2}$	18 45 $\frac{1}{2}$	201 23 $\frac{1}{2}$	77	76 $\frac{1}{2}$	3	Very cloudy.
u — 23.		Noon.	18 45 $\frac{1}{2}$	19 4 $\frac{1}{2}$	201 31	71	69 $\frac{1}{2}$	3	Ditto.
	5 53 56	19 6 35	70 44	19 8 $\frac{1}{2}$		74 $\frac{1}{2}$	73		
q — 24.		Noon.	15 39 $\frac{1}{2}$	19 22 $\frac{1}{2}$	199 59	74 $\frac{1}{2}$	72 $\frac{1}{2}$	3	Very cloudy.
	14 9 21	3 19 1	70 47 $\frac{1}{2}$	19 28 $\frac{1}{2}$		75	74		
	14 31 12 $\frac{1}{2}$	3 40 46	37 32 $\frac{1}{2}$	19 32 $\frac{1}{2}$	199 12 $\frac{1}{2}$	75	74 $\frac{1}{2}$	6	
	6 20 49 $\frac{1}{2}$	19 25 44	32 34 $\frac{1}{2}$	19 33 $\frac{1}{2}$	199 11 $\frac{1}{2}$	75	75	3	Cloudy.
b — 25.		Noon.	20 14 $\frac{1}{2}$	19 45 $\frac{1}{2}$	198 2 $\frac{1}{2}$	75 $\frac{1}{2}$	72 $\frac{1}{2}$	5	
	13 37 39	2 39 38	70 47 $\frac{1}{2}$	19 51 $\frac{1}{2}$		74 $\frac{1}{2}$	73 $\frac{1}{2}$		
			46 24 $\frac{1}{2}$	19 55 $\frac{1}{2}$	197 18 $\frac{1}{2}$	75	73 $\frac{1}{2}$	6	

1773	Time by Watch h		Apparent Time	Altitude of the Sun	Latitude South	Longitude East by h	In moon		Barometer
	H	m					A	B	
h Sept 25	13	53 41	2 55 39	2 51½	19 55	197 17	75	74	5
O — 26	7	38 57	10 35 38	36 21½	20 20½	195 56½	74	71½	5
			Noon	70 37½	20 25½		73	71	5
	16	3 23½	4 56 44	15 7½	20 30	195 5	72½	71	5
	6	9 22	18 59 38	14 21½	20 35	194 15½	71½	71½	5
			Noon	70 46½	20 40½		71½	71	5
	15	16 8½	4 2 46½	27 44½	20 44½	193 21½	72	70	5
	6	8 58½	18 48 45	11 56½	20 57½	191 37½	72	71	4
	6	34 30½		17 45½	20 58½	191 33½			5
			Noon	70 46½	21 3½		72½	72½	5
	9	33 39	22 6 44	56 18½	21 27½	189 53½	72½	73	5
			Noon	70 43½	21 30½		72½	72½	5
	13	44 3	2 15 37	51 45½	21 28½	189 30½			5
	6	25 53		12 48½	21 14½	187 56	73	70	4
			Noon	71 26	21 11½		71	70	4
	14	42 40	3 4 48	41 18½	21 13½	187 6½	71	70	4
	7	35 59	19 54 20	27 31½	21 20½	186 7½	69	67	5
			Noon	71 38½	21 21½		70½	70	5
	16	11 21	4 26 40	22 43½	21 24½	185 21	70	69	5
			Noon	72 3½	21 20½		70½	71½	5
	14	29 55		46 19½	21 20½	184 55½	71	74	5
	8	15 17	20 28 43	35 44½	21 16½	184 49½	71	71½	5
			Noon	73 6½	21 4½		71	71½	5
	13	59 49	2 12 22	53 37½	21 4½	184 32½	72½	72	3
			Noon	73 52½	21 4½	Dollond & Q Ramsden	71½	74½	6
	10	29 9½	22 41 56	65 3½	21 4½	184 32½	72½	74½	6
			Noon	73 52½	21 4	Dollond & Q Ramsden	72½	75½	8
	15	14 44½	3 27 27	37 9½	21 4½	184 30½	72½	72½	6
	10	31 44	22 44 38	65 48½	21 4½	184 31½	72½	72½	6
			Noon	74 14½	21 4½		72½	73	5
	15	36 24	3 49 7½	32 18½	21 4½	184 28½	72	72½	5
	8	59 0½	21 10 12	45 46½	22 1½	184 4½	73	73½	5
	9	22 18½	21 33 35	50 57½	22 1½	184 5½	73	73½	6
			Noon	73 38½	22 4½		75	76½	5
	16	57 42	5 9 29	73 47½	22 6½	184 12½	76½	75	5
	8	46 6½		43 25½	22 23½	184 47½	72½	70½	4
			Noon	73 37½	22 28		73½	73½	6
	7	43 36½	19 53 53	28 36½	22 36½	183 47½	74	70	6
			Noon	73 43½	22 45½		70½	69½	4
	16	1 10	4 9 11	27 55	22 56½	183 12½	71	70	4
	8	42 31½		40 38½	23 40		69	69	4
	9	31 36	21 36 10	51 30½	23 42½	182 19½	69	69	6
	9	31 36		51 30½		Ship's Course by W 4 miles an h			4
	12	25 56½		71 32	23 51½				4

Very cloudy

Very hazy
CloudyIn English Road
1 mow

Cloudy

In Van Diemen's
Road at Tongatabu

Very cloudy

The Road 12 miles

1773.	Time by Watch K.		Apparent Time.	Altitude of the Sun's L. L.		Latitude South.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
	H	M		H	M			A.	B.		
D Oct. 11.	15	51 38½	3 54 54	31 12½	24 6½	182 0	70½	69½	4		
	7	42 10		26 14½	25 17½	181 26½	69½	69½	5		
	8	2 43	20 3 31	30 50½	25 18½	181 23½	69½	69½	6		
— 12.			Noon.	71 38	25 26½		72	70½			
	16	34 31	4 34 21	22 19½	25 54	181 7	71	70½	5		
	8	41 53	20 39 30	38 41½	26 55	180 32½	69	68½	5		
— 13.			Noon.	70 24	27 13½		70½	70			
	7	2 41	13 57 38½	16 20½	28 27	179 51½	68½	66½	8		
	7	7 54	19 2 54½	17 29½	28 27	179 53½	68½	66½	5		
— 14.	6	35 45½	18 29 20	10 24½	29 47	179 30½	68	65	5		
— 15.			Noon.	68 5½	30 16		71½	68½			
	15	26 28½	3 20 7	38 24½	30 32	179 30½	71	70	5		
	6	39 25½	18 32 56	11 27½	31 16½	179 28½	67½	65	6		
— 16.			Noon.	67 2½	31 41½		69½	68			
	17	15 15	5 8 42	15 29½	32 0½	179 27½	68½	67	5		
	9	4 10	20 57 40	41 46½	32 37	179 27½	66½	66½	5		
— 17.			Noon.	66 24½	32 41½		69½	69			
	17	35 52½	5 29 18½	11 21½	32 51½	179 26	68	66			
	6	42 41	18 37 16	12 51½	33 24	179 42½	66½	64	6		
— 18.			Noon.	65 41½	33 46½		69½	66			
	8	5 10		29 53½	35 40		66½	64½	2	Cloudy;	
— 19.			Noon.	63 52½	35 58		68½	66½		Ditto.	
	7	3 34		17 32½	37 27	179 38½	64½	61½	5		
— 20.			Noon.	62 23½	37 47½		64	60½			
	14	49 27	2 42 51½	44 9½	37 58½	179 23	65	61½	6		
	6	48 51½	18 39 54½	14 14½	38 54½	178 48½	62	59½	6		
— 21.			Noon.	61 27	39 6		63½	62			
	14	48 52	2 37 5½	44 51½	39 10½	178 4½	64½	63½	6	Portland S. by W.	
	8	52 52½	20 35 30½	36 18½	40 5½	176 42	61½	58	6	½ N. 2 or 3 leagues.	
— 22.			Noon.	60 40½	40 14		62½	59½		Black-Head S. W.	
	15	32 15	3 14 55½	37 58½	40 25½	176 43	63½	60½	5	2 or 3 leagues.	
— 23.			Noon.	60 47½	40 28½		58	53½		Cape Turnagain S.	
	15	50 33½	3 33 13½	34 54½	40 28½	176 43	61	58	6	W. b. W. about 4 le.	
	8	26 39	20 7 57	31 23½	41 27½	176 24	60	57½	5	Cape Turnagain W.	
— 24.	17	33 46	5 13 38½	16 19½	41 57	176 1½	62½	62	6	½ S. about 2 leag.	
— 25.			Noon.	59 34½	42 23		62	59½			
	7	45 47	19 23 17	23 28	42 50½	175 27	59½	54½	5	Very hazy, and great sea.	
	11	46 5		58 42½		N. Ship's course N. W. by N. 6 miles an hour.					Ditto.
— 26.			Noon.	59 51½	42 27						
	13	46 2½		58 11½		0 N. 26° W.			4		

ON BOARD THE RESOLUTION.

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1773.	Time by Watch K.		Apparent Time.	Altitude of the Sun's L. L.		Latitude S.	Longitude Sail by K.		Thermom.		No. of Obs.	Remarks.
	H	M		H	M		°	'	A.	W.		
b Nov. 27.			Noon.	67	32 $\frac{1}{2}$	43	26 $\frac{1}{2}$		62	62		
	17	11 38 $\frac{1}{2}$		4	41 46	28	14	43 50 $\frac{1}{2}$	176	5 $\frac{1}{2}$	5	
	7	48 48	19	20 10	28	40 $\frac{1}{2}$	44	18 $\frac{1}{2}$	176	29	5	
D — 29.			Noon.	66	44	44	36 $\frac{1}{2}$		64 $\frac{1}{2}$	55		
	17	12 31		4	45 50	27	47 $\frac{1}{2}$	44 50	177	8 $\frac{1}{2}$	5	
	7	51 24 $\frac{1}{2}$	19	28 3	30	19 $\frac{1}{2}$	45	34 $\frac{1}{2}$	178	3 $\frac{1}{2}$	5	
d — 30.			Noon.	65	40 $\frac{1}{2}$	45	49 $\frac{1}{2}$		59	49		
	17	34 9 $\frac{1}{2}$		5	12 44	23	19 $\frac{1}{2}$	46 3 $\frac{1}{2}$	178	35 $\frac{1}{2}$	5	Very cloudy.
	7	54 25 $\frac{1}{2}$	19	35 37	31	43 $\frac{1}{2}$	46	54	179	10 $\frac{1}{2}$	5	Very hazy.
u Dec. 1.			Noon.	64	35 $\frac{1}{2}$	47	4 $\frac{1}{2}$		59	49 $\frac{1}{2}$		Very cloudy.
u — 2.			Noon.	63	26 $\frac{1}{2}$	48	21 $\frac{1}{2}$		57	46 $\frac{1}{2}$		Ditto.
u — 3.			Noon.	63	0 $\frac{1}{2}$	48	56 $\frac{1}{2}$		56 $\frac{1}{2}$	47		Hazy.
u — 4.	5	44 32	17	26 1	11	39 $\frac{1}{2}$	50	4 $\frac{1}{2}$	179	57 $\frac{1}{2}$	5	
o — 5.			Noon.	61	59	50	14 $\frac{1}{2}$		62 $\frac{1}{2}$	46 $\frac{1}{2}$		
	17	48 50 $\frac{1}{2}$		5	28 49	21	47 $\frac{1}{2}$	50 18 $\frac{1}{2}$	179	37 $\frac{1}{2}$	6	
	8	7 49	19	47 0	33	51 $\frac{1}{2}$	50	38 $\frac{1}{2}$	179	33 $\frac{1}{2}$	6	
D — 6.			Noon.	61	26 $\frac{1}{2}$	50	54 $\frac{1}{2}$		65	49		Very cloudy.
	10	38 26	22	19 18	54	0 $\frac{1}{2}$	52	53	180	5 $\frac{1}{2}$	6	
d — 7.			Noon.	59	20 $\frac{1}{2}$	53	7 $\frac{1}{2}$		63 $\frac{1}{2}$	49		
	16	15 15 $\frac{1}{2}$		3	57 40	35	53 $\frac{1}{2}$	53 35 $\frac{1}{2}$	180	31	6	
	7	24 47	19	9 16	28	7 $\frac{1}{2}$	55	11 $\frac{1}{2}$	181	7 $\frac{1}{2}$	6	Cloudy.
	9	23 50	21	7 51	44	22 $\frac{1}{2}$	55	18 $\frac{1}{2}$	181	1 $\frac{1}{2}$	6	Flying clouds.
u — 8.			Noon.	56	54 $\frac{1}{2}$	55	39 $\frac{1}{2}$		57 $\frac{1}{2}$	43 $\frac{1}{2}$		
	16	29 53		4	16 22	32	56 $\frac{1}{2}$	56 4 $\frac{1}{2}$	181	41	6	
	9	42 23	21	29 21	45	40 $\frac{1}{2}$	57	44 $\frac{1}{2}$	181	54 $\frac{1}{2}$	6	
	10	14 5			48	52 $\frac{1}{2}$	58	6 $\frac{1}{2}$	Ship's course S. S.			Hazy.
u — 9.					53	43 $\frac{1}{2}$			E. 6 $\frac{1}{2}$ miles an hour.			
	16	23 25 $\frac{1}{2}$			33	12 $\frac{1}{2}$	58	22 $\frac{1}{2}$	182	21 $\frac{1}{2}$	3	
u — 10.					46	43 $\frac{1}{2}$	60	31	186	38 $\frac{1}{2}$	6	Cloudy.
u — 11.			Noon.	52	6	60	44 $\frac{1}{2}$		57 $\frac{1}{2}$	39 $\frac{1}{2}$		
	16	11 26		4	18 26	31	59 $\frac{1}{2}$	61 11 $\frac{1}{2}$	187	23 $\frac{1}{2}$	6	
o — 12.			Noon.	50	9 $\frac{1}{2}$	62	46 $\frac{1}{2}$		54	32 $\frac{1}{2}$		
	16	25 55		4	44 57	28	47	63 4	190	26 $\frac{1}{2}$	6	Very cloudy.
	18	52 25 $\frac{1}{2}$		7	13 24 $\frac{1}{2}$	12	34 $\frac{1}{2}$	63 10 $\frac{1}{2}$	190	56 $\frac{1}{2}$		
D — 13.				19	44 52	31	51 $\frac{1}{2}$	64 38 $\frac{1}{2}$	195	45 $\frac{1}{2}$	6	
d — 14.			Noon.	48	8 $\frac{1}{2}$	64	55 $\frac{1}{2}$		51 $\frac{1}{2}$	34 $\frac{1}{2}$		
	15	50 45		4	36 54 $\frac{1}{2}$	29	30	65 12 $\frac{1}{2}$	197	32	6	
u — 16.			Noon.	48	54 $\frac{1}{2}$	64	15 $\frac{1}{2}$		51	35		A great sea.
u — 17.					48	10 $\frac{1}{2}$			Lying too, Ship's			
	11	23 57 $\frac{1}{2}$			43	24 $\frac{1}{2}$	64	35	Head N. Eastward.			
	12	58 41 $\frac{1}{2}$			28	23 $\frac{1}{2}$	64	31	204	59 $\frac{1}{2}$	6	
o — 19.			Noon.	48	27 $\frac{1}{2}$	64	47 $\frac{1}{2}$		56	33		
	14	49 36		30	38 $\frac{1}{2}$	64	49 $\frac{1}{2}$	211 24	57 $\frac{1}{2}$	34	6	
D — 20.			Noon.	47	18	65	58		55	33		
d — 21.			Noon.	46	29 $\frac{1}{2}$	66	48		55	34		Very foggy.
u — 22.			Noon.	45	50	67	26 $\frac{1}{2}$		50	33		Very good.

1773	Time by Watch		Apparent Time	Altitude of the Sun L L	Latitude S	Longitude by K	Thermom		No of Obs	Remarks	
	H	M					A	B			
Dec 22	5	51	42	20 11 26	33 51 $\frac{1}{2}$	67 14	221 34	41	51 $\frac{1}{2}$	6	Cloudy
23			Noon	46 4	67 12 $\frac{1}{2}$			53	35		
24	14	46	55 $\frac{1}{2}$	5 8 42	26 15 $\frac{1}{2}$	67 5	223 4	53	33	6	
	16	9	43	6 33 2	18 11 $\frac{1}{2}$	67 3	223 26 $\frac{1}{2}$	55	33	10	
25			Noon	46 52 $\frac{1}{2}$	66 21 $\frac{1}{2}$			50	34		
26			Noon	46 57 $\frac{1}{2}$	66 14 $\frac{1}{2}$			56	37		
	14	52	4 $\frac{1}{2}$	5 24 29 $\frac{1}{2}$	24 4 $\frac{1}{2}$	66 6	226 1 $\frac{1}{2}$	58	35	6	
	5	17	54 $\frac{1}{2}$	19 52 11	32 23 $\frac{1}{2}$	65 51 $\frac{1}{2}$	226 35 $\frac{1}{2}$	47	36	5	
27			Noon	47 16 $\frac{1}{2}$	65 53 $\frac{1}{2}$			53	35		
	14	12	54 $\frac{1}{2}$	4 46 57	28 28 $\frac{1}{2}$	65 46 $\frac{1}{2}$	226 35 $\frac{1}{2}$	52 $\frac{1}{2}$	34	6	
29	14	41	10 $\frac{1}{2}$	5 9 29	26 6 $\frac{1}{2}$	62 10	225 29 $\frac{1}{2}$		34 $\frac{1}{2}$	6	
30	4	55	27 $\frac{1}{2}$	19 17 59	29 24 $\frac{1}{2}$	59 56	224 47 $\frac{1}{2}$	47	33	6	
31			Noon	53 15 $\frac{1}{2}$	59 40			54	35 $\frac{1}{2}$		
	15	16	36	5 39 23	22 11 $\frac{1}{2}$	59 38	224 58 $\frac{1}{2}$	63	35	6	
	5	54	19 $\frac{1}{2}$	21 14 40	43 21 $\frac{1}{2}$	59 17 $\frac{1}{2}$	223 54 $\frac{1}{2}$	50 $\frac{1}{2}$	34 $\frac{1}{2}$	6	
1774 Jan 1			Noon	53 39 $\frac{1}{2}$	59 11 $\frac{1}{2}$			61 $\frac{1}{2}$	36 $\frac{1}{2}$		W W Mr Gilpin
	15	54	33	6 13 10	17 43 $\frac{1}{2}$	58 48	223 32 $\frac{1}{2}$	59 $\frac{1}{2}$	37 $\frac{1}{2}$	6	
	3	22	16	17 38 47	16 31 $\frac{1}{2}$	58 4	223 5 $\frac{1}{2}$	51 $\frac{1}{2}$	34 $\frac{1}{2}$	6	
2			Noon	54 47 $\frac{1}{2}$	57 58 $\frac{1}{2}$			61	38 $\frac{1}{2}$		
3	8	4	37 $\frac{1}{2}$	22 10 23	50 20 $\frac{1}{2}$	56 52 $\frac{1}{2}$				6	
			Noon	55 54	56 46 $\frac{1}{2}$			55	36		
4	14	13	55	4 17 36	32 45 $\frac{1}{2}$	56 27	220 6 $\frac{1}{2}$	61 $\frac{1}{2}$	39	6	
			Noon	57 39	54 55 $\frac{1}{2}$			59 $\frac{1}{2}$	46 $\frac{1}{2}$		
5	6	9	56	20 21 42	38 38 $\frac{1}{2}$	53 57	222 5	51 $\frac{1}{2}$	17	5	
			Noon	58 44	53 43 $\frac{1}{2}$			55 $\frac{1}{2}$	46 $\frac{1}{2}$		
6	6	11	9	20 29 32	40 3 $\frac{1}{2}$	52 23	224 11 $\frac{1}{2}$	50 $\frac{1}{2}$	46	6	
			Noon	60 21	51 59 $\frac{1}{2}$			55 $\frac{1}{2}$	47		
	14	34	28 $\frac{1}{2}$	4 55 18	27 12 $\frac{1}{2}$	51 42 $\frac{1}{2}$	224 50 $\frac{1}{2}$	55	50	6	
	5	27	1 $\frac{1}{2}$	19 53 10 $\frac{1}{2}$	34 45 $\frac{1}{2}$	50 47	226 16	52 $\frac{1}{2}$	47 $\frac{1}{2}$	6	
7	6	17	7	20 43 27	42 30 $\frac{1}{2}$	50 45 $\frac{1}{2}$	226 18 $\frac{1}{2}$			6	
			Noon	61 37	50 36 $\frac{1}{2}$			61 $\frac{1}{2}$	50		
	14	28	15	4 57 48	26 39 $\frac{1}{2}$	50 19 $\frac{1}{2}$	226 55 $\frac{1}{2}$	66 $\frac{1}{2}$	50 $\frac{1}{2}$	6	
	6	13	55	20 48 47	43 40 $\frac{1}{2}$	49 19 $\frac{1}{2}$	228 36	56	47 $\frac{1}{2}$	6	
	6	29	19	21 4 14	46 2 $\frac{1}{2}$	49 19	228 36 $\frac{1}{2}$			6	
8	6	59	11	21 34 16	50 27 $\frac{1}{2}$	49 17	228 39 $\frac{1}{2}$			6	
			Noon	62 58	49 7 $\frac{1}{2}$			61 $\frac{1}{2}$	49 $\frac{1}{2}$		
	14	10	38	4 54 47	26 58 $\frac{1}{2}$	48 59 $\frac{1}{2}$	229 43	65 $\frac{1}{2}$	50	3	
9	5	5	7 $\frac{1}{2}$	19 52 56	34 49 $\frac{1}{2}$	48 25 $\frac{1}{2}$	231 58 $\frac{1}{2}$	54	49	6	
			Noon	63 40 $\frac{1}{2}$	48 17			61	51 $\frac{1}{2}$		
10	4	23	22	19 22 4	29 34 $\frac{1}{2}$	48 8 $\frac{1}{2}$	234 50 $\frac{1}{2}$	57	49 $\frac{1}{2}$	4	
			Noon	63 41	48 7 $\frac{1}{2}$			64	52 $\frac{1}{2}$		
11	4	17	6 $\frac{1}{2}$	19 23 31	29 42 $\frac{1}{2}$	47 50 $\frac{1}{2}$	236 54	54 $\frac{1}{2}$	48 $\frac{1}{2}$	6	
			Noon	63 48 $\frac{1}{2}$	47 51 $\frac{1}{2}$			62	50		

1774.	Time by Watch K.		Apparent Time.	Altitude of the \odot 's L. L.	Latitude S.	Longitude East by K.		Thermom.		No. of Obs.	Remarks.
	H	"				"	"	A.	B.		
δ Jan. 11.	14	41 49	5 53 23	17 1 $\frac{1}{2}$	48 19 $\frac{1}{2}$	238	16 $\frac{1}{2}$	65	50	6	
	4	8 17 $\frac{1}{2}$	19 24 51	29 49 $\frac{1}{2}$	49 13 $\frac{1}{2}$	239	34 $\frac{1}{2}$	57	53	6	
δ — 12.			Noon.	61 56 $\frac{1}{2}$	49 34			63 $\frac{1}{2}$	56		
	13	58 50	5 18 33	22 50 $\frac{1}{2}$	50 0 $\frac{1}{2}$	240	24 $\frac{1}{2}$	65	55	6	
δ — 13.			Noon.	59 19:	52 1 $\frac{1}{2}$			63 $\frac{1}{2}$	53 $\frac{1}{2}$		Foggy.
δ — 14.			Noon.	57 15:	53 55 $\frac{1}{2}$			63 $\frac{1}{2}$	51 $\frac{1}{2}$		Ditto.
	13	24 11 $\frac{1}{2}$	4 39 49 $\frac{1}{2}$	28 36 $\frac{1}{2}$	54 27	239	39 $\frac{1}{2}$	64 $\frac{1}{2}$	54 $\frac{1}{2}$	6	Ditto.
δ — 15.	4	49 6	20 6 23 $\frac{1}{2}$	34 38 $\frac{1}{2}$	55 59 $\frac{1}{2}$	240	17	55	48	6	A great sea.
\odot — 16.			Noon.	54 30:	56 18 $\frac{1}{2}$			61 $\frac{1}{2}$	47 $\frac{1}{2}$	6	Ditto, and hazy.
	14	18 45	5 37 39	20 16 $\frac{1}{2}$	56 50 $\frac{1}{2}$	240	44	63 $\frac{1}{2}$	49	6	
	4	17 58 $\frac{1}{2}$		30 22 $\frac{1}{2}$	58 7	241	16 $\frac{1}{2}$	52	43 $\frac{1}{2}$	6	
δ — 17.			Noon.	52 3:	58 34			60 $\frac{1}{2}$	41 $\frac{1}{2}$		Foggy.
	12	52 8		30 53 $\frac{1}{2}$	58 58 $\frac{1}{2}$	241	57 $\frac{1}{2}$	58 $\frac{1}{2}$	41	6	
δ — 18.	13	3 46	4 32 1	28 18 $\frac{1}{2}$	61 6	243	18 $\frac{1}{2}$	56 $\frac{1}{2}$	41 $\frac{1}{2}$	6	
δ — 19.	2	18 54 $\frac{1}{2}$	17 48 49	16 26 $\frac{1}{2}$	62 28	243	53 $\frac{1}{2}$	51	47 $\frac{1}{2}$	6	
δ — 20.			Noon.	47 25 $\frac{1}{2}$	62 31 $\frac{1}{2}$			60	40		
	12	53 59 $\frac{1}{2}$	4 21 43	28 51 $\frac{1}{2}$	62 37 $\frac{1}{2}$	243	23 $\frac{1}{2}$	61 $\frac{1}{2}$	38	6	
δ — 21.	8	46 51		47 16 $\frac{1}{2}$	62 26	N. W. $\frac{1}{2}$ N. at 2d Observ. Ship's course E. $\frac{1}{2}$ N. 4 $\frac{1}{2}$ miles an hour.					
	9	41 19		45 42 $\frac{1}{2}$							
	12	44 20	4 13 7 $\frac{1}{2}$	29 34 $\frac{1}{2}$	62 20 $\frac{1}{2}$	244	1	59	38	10	
δ — 22.	4	0 14	19 49 3	29 38 $\frac{1}{2}$	62 18 $\frac{1}{2}$	248	57	47	37	6	
\odot — 23.			Noon.	46 57 $\frac{1}{2}$	62 22 $\frac{1}{2}$			55 $\frac{1}{2}$	38 $\frac{1}{2}$		Cloudy.
δ — 24.	4	47 14	20 41 44	33 25	65 15 $\frac{1}{2}$	250	34 $\frac{1}{2}$	54	41		
δ — 25.			Noon.	43 26 $\frac{1}{2}$	65 24 $\frac{1}{2}$			60 $\frac{1}{2}$	42 $\frac{1}{2}$		Hazy.
	14	35 14	6 28 46	14 12 $\frac{1}{2}$	65 45	250	22 $\frac{1}{2}$	62	39 $\frac{1}{2}$	6	
	3	3 2	18 55 54	22 37 $\frac{1}{2}$	66 25	250	15 $\frac{1}{2}$	50		5	
δ — 26.			Noon.	42 1:	66 35 $\frac{1}{2}$			58 $\frac{1}{2}$	40		
δ — 27.			Noon.	40 29 $\frac{1}{2}$	67 51 $\frac{1}{2}$			60	37 $\frac{1}{2}$		
δ — 28.	3	13 8	19 12 10	22 58 $\frac{1}{2}$	69 41	252	3 $\frac{1}{2}$	46 $\frac{1}{2}$	34 $\frac{1}{2}$		
	3	52 58	19 52 6	26 17 $\frac{1}{2}$	69 42 $\frac{1}{2}$	252	5			4	
δ — 29.			Noon.	37 51 $\frac{1}{2}$	69 58 $\frac{1}{2}$			53	36 $\frac{1}{2}$		
	12	42 32	4 44 23 $\frac{1}{2}$	13 3 $\frac{1}{2}$	70 18	252	47 $\frac{1}{2}$	63		5	
δ — 31.			Noon.	38 4: $\frac{1}{2}$	69 13			58 $\frac{1}{2}$	34		
	3	32 17	19 40 27	25 0 $\frac{1}{2}$	68 13	254	34 $\frac{1}{2}$	58 $\frac{1}{2}$	35	6	
	3	44 3	19 52 13	26 2 $\frac{1}{2}$	68 12 $\frac{1}{2}$	254	34 $\frac{1}{2}$			3	
	7	41 59		38 57						3	
δ Feb. 1.				38 59: $\frac{1}{2}$	68 1 $\frac{1}{2}$			58 $\frac{1}{2}$	35	3	} Latit. by two } Alt. 68° 0 $\frac{1}{2}$ S.
	8	19 58		38 47 $\frac{1}{2}$						5	
	5	24 18		34 27 $\frac{1}{2}$	N. Ship's course N. E. by N. 4 miles an hour.						3
	7	31 17		39 30 $\frac{1}{2}$							
δ — 2.			Noon.	39 35 $\frac{1}{2}$	67 7 $\frac{1}{2}$			54	37		
δ — 3.			Noon.	40 1	66 25			57	35		

ASTRONOMICAL OBSERVATIONS

1774		Time by Watch K		Apparent Time	Altitude of the Sun	Latitude S	Longitude East by 1	Thermom		No of Obs	Remarks
		H	M					A	B		
24 Feb	3	12	34	2	4 48 25	21 8	66 18				
4	4	3	11	51	19 39 35 $\frac{1}{2}$	24 50 $\frac{1}{2}$	65 46 $\frac{1}{2}$	258 47 $\frac{1}{2}$		5	
					Noon	40 26 $\frac{1}{2}$	65 41 $\frac{1}{2}$	259 40	49 34	5	
		11	42	3	4 10 2	25 47 $\frac{1}{2}$	65 36	259 44 $\frac{1}{2}$	58 $\frac{1}{2}$ 34 $\frac{1}{2}$	6	
		2	55	13	19 22 29	23 16 $\frac{1}{2}$	64 28 $\frac{1}{2}$	259 36	61 34 $\frac{1}{2}$	6	
		11	48	41	4 15 50 $\frac{1}{2}$	25 26 $\frac{1}{2}$	63 58 $\frac{1}{2}$	259 35 $\frac{1}{2}$	49 37 $\frac{1}{2}$	6	
		5	28	34		37 10 $\frac{1}{2}$				6	
					Noon	41 38	63 53 $\frac{1}{2}$		60 39 $\frac{1}{2}$	5	
		3	21	48	19 55 23 $\frac{1}{2}$	25 57 $\frac{1}{2}$	61 31 $\frac{1}{2}$	161 17 $\frac{1}{2}$	46 37	5	
					Noon	44 9	61 5 $\frac{1}{2}$		55 40	5	
		12	35	24	5 10 30 $\frac{1}{2}$	19 13 $\frac{1}{2}$	60 30 $\frac{1}{2}$	261 41 $\frac{1}{2}$	60 $\frac{1}{2}$ 38	5	Cloudy & bad horizon
		3	40	32	10 17 22 $\frac{1}{2}$	11 23 $\frac{1}{2}$	54 2 $\frac{1}{2}$	262 15	54 $\frac{1}{2}$ 44	5	
					Noon	50 39 $\frac{1}{2}$	53 36 $\frac{1}{2}$		60 47	5	
		12	18	45 $\frac{1}{2}$	4 55 14	20 59 $\frac{1}{2}$	53 9	262 12	64 47	5	
		8	8	39		50 53 $\frac{1}{2}$		ON 76 W at 2d		4	Strong wind, and a high sea
		10	20	50		37 20 $\frac{1}{2}$	51 33 $\frac{1}{2}$	obl Ship's course		4	
								N $\frac{1}{2}$ E 6 $\frac{1}{2}$ m an h		4	
		13	8	50	5 52 52 $\frac{1}{2}$	11 43	51 12 $\frac{1}{2}$	264 17 $\frac{1}{2}$	62 $\frac{1}{2}$ 49 $\frac{1}{2}$	6	A high sea
		3	10	47	19 51 14	28 35 $\frac{1}{2}$	50 23 $\frac{1}{2}$	263 58 $\frac{1}{2}$	53 $\frac{1}{2}$ 47 $\frac{1}{2}$	4	Cloudy
					Noon	53 21 $\frac{1}{2}$	50 15		59 $\frac{1}{2}$ 47 $\frac{1}{2}$	4	
		13	44	16	6 27 32	6 6 $\frac{1}{2}$	50 11	263 57	64 $\frac{1}{2}$ 49	4	
					Noon	53 4	50 12 $\frac{1}{2}$		60 $\frac{1}{2}$ 52	6	
		11	49	35 $\frac{1}{2}$	4 27 49 $\frac{1}{2}$	24 44 $\frac{1}{2}$	50 26 $\frac{1}{2}$	262 43 $\frac{1}{2}$	64 $\frac{1}{2}$ 51 $\frac{1}{2}$	6	
		12	14	28	4 55 9	20 14	49 28	263 21 $\frac{1}{2}$	68 51 $\frac{1}{2}$	6	
		3	6	42	19 45 25 $\frac{1}{2}$	26 42 $\frac{1}{2}$	48 55	262 53 $\frac{1}{2}$	59 $\frac{1}{2}$ 51	6	
					Noon	53 41	48 55		63 $\frac{1}{2}$ 54	6	Thick fog
					Noon	54 30 $\frac{1}{2}$	47 45		59 $\frac{1}{2}$ 56	6	Foggy
		3	2	41	19 50 3	27 25 $\frac{1}{2}$	46 32 $\frac{1}{2}$	265 15	60 53	6	Very hazy
		6	25	10		54 10 $\frac{1}{2}$		ON Ship's course		5	Ditto
					Noon	55 37 $\frac{1}{2}$	46 17 $\frac{1}{2}$	N 4 m an ho 155		5	Ditto
		7	38	55		55 10 $\frac{1}{2}$	46 15 $\frac{1}{2}$	By two Altitudes		5	Ditto
		3	11	37	20 0 19	29 21 $\frac{1}{2}$	44 37 $\frac{1}{2}$	265 26 $\frac{1}{2}$	55 $\frac{1}{2}$ 52	6	A high sea
					Noon	57 23 $\frac{1}{2}$	44 10 $\frac{1}{2}$		56 $\frac{1}{2}$ 50 $\frac{1}{2}$	6	Ditto
		10	17	0		38 53 $\frac{1}{2}$	43 52 $\frac{1}{2}$	265 6 $\frac{1}{2}$		6	Ditto
		3	19	57	20 3 7	30 6 $\frac{1}{2}$	42 24 $\frac{1}{2}$	264 5	58 55	4	Cloudy
					Noon	59 6 $\frac{1}{2}$	42 5 $\frac{1}{2}$		60 $\frac{1}{2}$ 58 $\frac{1}{2}$	6	
		12	1	8	4 44 47	21 20 $\frac{1}{2}$	41 43 $\frac{1}{2}$	264 12 $\frac{1}{2}$	63 $\frac{1}{2}$ 59	6	
		3	20	24	20 6 20 $\frac{1}{2}$	30 46 $\frac{1}{2}$	40 21	264 47 $\frac{1}{2}$	64 61	6	
					Noon	60 51 $\frac{1}{2}$	39 59 $\frac{1}{2}$		66 $\frac{1}{2}$ 66	10	
		10	35	31	3 22 13 $\frac{1}{2}$	36 47 $\frac{1}{2}$	39 43 $\frac{1}{2}$	264 59	69 66	6	
		2	1	2	18 49 27	16 9 $\frac{1}{2}$	38 21	265 25	68 $\frac{1}{2}$ 67 $\frac{1}{2}$	10	
					Noon	62 35 $\frac{1}{2}$	37 53 $\frac{1}{2}$		70 $\frac{1}{2}$ 68 $\frac{1}{2}$	5	
		11	42	20	4 31 31	23 46 $\frac{1}{2}$	37 31 $\frac{1}{2}$	265 21 $\frac{1}{2}$	72 $\frac{1}{2}$ 69	5	
		2	43	43		23 53 $\frac{1}{2}$	36 24	264 52		5	
					Noon	63 57	36 10 $\frac{1}{2}$			5	

ON BOARD THE RESOLUTION.

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1774.	Time by Watch K.		Apparent Time.		Altitude of the Sun's L. L.	Latitude S.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
	H	M	H	M				A.	B.		
Feb. 22.	3	7	23	19 45 31	26 54 $\frac{1}{2}$	36 34 $\frac{1}{2}$	262 51 $\frac{1}{2}$			5	
" 23.			Noon.		63 4	36 41 $\frac{1}{2}$		71 $\frac{1}{2}$	69		
	12	10	47	4 46 34	20 24 $\frac{1}{2}$	36 48	262 1 $\frac{1}{2}$		69	5	
	2	32	41		18 26 $\frac{1}{2}$	37 16 $\frac{1}{2}$	261 13 $\frac{1}{2}$	69	71	6	
" 24.			Noon.		61 56	37 27 $\frac{1}{2}$		73 $\frac{1}{2}$	71		
	4	6	24		34 25 $\frac{1}{2}$	37 49 $\frac{1}{2}$	258 42 $\frac{1}{2}$	72	70	6	
" 25.			Noon.		61 7 $\frac{1}{2}$	37 53 $\frac{1}{2}$		71	69		Cloudy.
	12	37	30		17 45 $\frac{1}{2}$	37 45	258 18 $\frac{1}{2}$	71 $\frac{1}{2}$	68 $\frac{1}{2}$	6	
	3	30	27 $\frac{1}{2}$	19 48 15 $\frac{1}{2}$	26 43 $\frac{1}{2}$	36 53 $\frac{1}{2}$	257 46 $\frac{1}{2}$	69	65 $\frac{1}{2}$	6	
" 26.			Noon.		61 59	36 39 $\frac{1}{2}$		67 $\frac{1}{2}$	65		
	13	27	22	5 43 19	8 24 $\frac{1}{2}$	36 11	257 18 $\frac{1}{2}$	70 $\frac{1}{2}$	64 $\frac{1}{2}$	5	
	4	42	55	20 57 26	40 25 $\frac{1}{2}$	35 4	256 56 $\frac{1}{2}$		67	5	
" 27.			Noon.		63 22 $\frac{1}{2}$	34 54		68 $\frac{1}{2}$	68 $\frac{1}{2}$		
	12	31	9	4 45 33	19 53 $\frac{1}{2}$	34 33 $\frac{1}{2}$	256 54 $\frac{1}{2}$		68	6	
	3	40	7	19 53 54	27 59 $\frac{1}{2}$	33 24 $\frac{1}{2}$	256 44 $\frac{1}{2}$	70 $\frac{1}{2}$	69 $\frac{1}{2}$	5	Very cloudy.
" 28.			Noon.		64 44 $\frac{1}{2}$	33 9		72	71 $\frac{1}{2}$		
	3	13	11	19 25 19 $\frac{1}{2}$	21 58 $\frac{1}{2}$	32 27	256 20			5	
" March 1.			Noon.		65 14 $\frac{1}{2}$	32 17		74 $\frac{1}{2}$	71 $\frac{1}{2}$		
	12	55	24	5 8 2	14 52 $\frac{1}{2}$	32 6	256 26 $\frac{1}{2}$	76 $\frac{1}{2}$	73 $\frac{1}{2}$	5	
	3	37	46	19 51 11	27 20 $\frac{1}{2}$	31 21 $\frac{1}{2}$	256 38			5	
" 2.			Noon.		65 54 $\frac{1}{2}$	31 13 $\frac{1}{2}$		74	74		
	12	38	5	4 52 9	18 5 $\frac{1}{2}$	31 5 $\frac{1}{2}$	256 47 $\frac{1}{2}$		74	6	
	3	39	40 $\frac{1}{2}$	19 55 13	28 5 $\frac{1}{2}$	30 39 $\frac{1}{2}$	257 9	73 $\frac{1}{2}$	71	5	
" 3.			Noon.		66 8 $\frac{1}{2}$	30 36 $\frac{1}{2}$		75	74		
	12	47	53		15 2	30 26 $\frac{1}{2}$	257 41 $\frac{1}{2}$	78 $\frac{1}{2}$	75	3	
	3	23	53	19 42 49	25 25	30 6	257 59 $\frac{1}{2}$	75 $\frac{1}{2}$	74	5	
" 4.			Noon.		66 24	29 58 $\frac{1}{2}$		75 $\frac{1}{2}$	74 $\frac{1}{2}$		
	12	18	35	4 38 17	20 45 $\frac{1}{2}$	29 52 $\frac{1}{2}$	258 10	78 $\frac{1}{2}$	76	5	
	2	44	9 $\frac{1}{2}$	19 4 28	16 55 $\frac{1}{2}$	29 46	258 18 $\frac{1}{2}$			5	
" 5.			Noon.		66 15	29 44 $\frac{1}{2}$		77 $\frac{1}{2}$	75		
	12	34	46	4 55 4	16 57 $\frac{1}{2}$	29 41 $\frac{1}{2}$	258 17 $\frac{1}{2}$			6	
	3	35	43 $\frac{1}{2}$	19 55 2	27 39 $\frac{1}{2}$	29 30 $\frac{1}{2}$	258 2 $\frac{1}{2}$			6	Cloudy.
" 6.			Noon.		66 14 $\frac{1}{2}$	29 21 $\frac{1}{2}$		76	74		
	12	57	3 $\frac{1}{2}$	5 14 52	12 30 $\frac{1}{2}$	29 11 $\frac{1}{2}$	257 39	76 $\frac{1}{2}$	73 $\frac{1}{2}$	6	
	2	46	46	19 2 0	16 4 $\frac{1}{2}$	28 36	256 59 $\frac{1}{2}$			6	Cloudy.
" 7.			Noon.		66 53	28 19 $\frac{1}{2}$		75 $\frac{1}{2}$	74 $\frac{1}{2}$		
	13	3	12 $\frac{1}{2}$	5 16 24	11 59 $\frac{1}{2}$	28 2	256 28 $\frac{1}{2}$		74	5	
	2	42	25	18 51 26	13 37 $\frac{1}{2}$	27 16 $\frac{1}{2}$	255 25	76	73 $\frac{1}{2}$	6	
" 8.			Noon.		67 45 $\frac{1}{2}$	27 3 $\frac{1}{2}$		76	75 $\frac{1}{2}$		
	3	39	56 $\frac{1}{2}$		24 20	27 6	253 19 $\frac{1}{2}$		74 $\frac{1}{2}$	6	
" 9.			Noon.		67 19	27 6 $\frac{1}{2}$		76 $\frac{1}{2}$	77		
	12	55	59	3 54 25	29 43 $\frac{1}{2}$	27 7	252 44	76 $\frac{1}{2}$	76 $\frac{1}{2}$	6	
" 10.			Noon.		66 53	27 9 $\frac{1}{2}$		76	76 $\frac{1}{2}$		
	11	37	17	3 27 46 $\frac{1}{2}$	35 17 $\frac{1}{2}$	27 9 $\frac{1}{2}$	250 43 $\frac{1}{2}$	76	76	6	
	5	8	6	20 55 34	40 4 $\frac{1}{2}$	27 10 $\frac{1}{2}$	249 56 $\frac{1}{2}$	76	75	6	
" 11.			Noon.		66 27 $\frac{1}{2}$	27 10 $\frac{1}{2}$		76 $\frac{1}{2}$	75		

1774	Time by Watch K	Apparent Time	Altitude of the ☉ I L	Latitude South	Longitude East by K	The moon		CO	Remarks
	H	H				A	B		
7 March 11	5 20 50	5 6 47½	13 24½	27 11½	249 33½	76	75½	6	
h — 12		Noon	65 57½	27 17½		75½	75½		
	3 53 16	19 37 20	22 50½	27 11	249 2	74½	75½	2	Off the South Point of L'Anse-au-Loup
O — 13		Noon	65 45	27 6½		76	74		Off the North Point of ditto
D — 14		Noon	65 20	27 7½		74½	74		At Anchor off the N W side of ditto
h — 16	10 43 8	2 27 20	46 53½	27 8	249 3½	75½	74	6	
		Noon	64 33½	27 7		74	75		Off the N W side of ditto
h — 17	11 38 51	3 23 3	35 4½	27 7	248 57½	75	75	6	
	3 33 8	19 15 41½	17 22½	26 66	248 32½	77½	77	6	
h — 18		Noon	64 28½	26 48		77	76½	5	Cloudy
	12 37 27	4 18 17	23 5	26 38½	248 5½	77	76½		
h — 18	3 11 41	18 50 34½	11 43½	26 16	247 34½	76½	75½	5	
		Noon	64 48½	26 4½		78	76		
	11 41 57½	3 20 42	35 31½	26 0	247 31			5	
h — 19	5 3 15	20 40 28	35 54½	25 6½	247 7½			6	Very cloudy
		Noon	65 37½	24 51½		77	77		
	11 23 32	3 0 6½	40 6½	24 41½	246 57	77½	76	1	Cloudy
O — 20	5 8 31	20 42 48	36 45½	23 21½	246 20½	77½	77	5	
		Noon	67 4½	23 1½		77	71		
h — 21	5 20 24	20 51 18½	39 4½	21 23½	245 28	77	77½		
		Noon	68 38½	21 3½		78½	77		
h — 22	11 40 17	3 10 15	38 51½	20 48½	245 13½	78	76	6	Cloudy
		Noon	69 57	19 21					
	11 37 20½	3 3 31	40 39½	19 13	244 14	76	75½	10	
h — 23	5 36 20	20 58 30	41 17½	18 18½	243 12½	77	76½	5	
		Noon	70 44½	18 9½		79	77½		
h — 24	5 39 14	20 57 6	41 7½	17 16	242 5½	77	75½	6	
		Noon	71 24	17 6½		78½	77		
	13 21 30	4 28 9½	18 57½	16 55	241 46½	79	77	5	
h — 25	4 2 52	19 16 18	17 38½	16 18½	240 56½	78½	76	6	
		Noon	72 5½	16 1½		79	78		
	13 3 0½	4 14 45½	24 31½	15 51½	240 30½	79½	76½	6	
h — 26	3 51 10	18 59 12	13 36½	15 4½	239 33½	78	78	6	
		Noon	72 57½	14 45½		78½	78½		
	13 55 31	5 1 9½	13 31½	14 28½	238 55½	79½	78	5	
O — 27	4 25 48	19 27 28	20 27½	13 29½	237 55½	78½	78½	6	
		Noon	74 7	13 12½		79½	80		
	13 32 29	4 32 0	20 37½	12 57½	237 24½	80	79	6	
h — 28	4 2 15		13 20½	12 3½	236 18½	79	78½	6	
		Noon	75 10½	11 45½		80½	80		
	13 30 37		22 36½	11 32½	235 50	80	80	6	
h — 29	4 13 3	19 2 40	14 37½	10 38½	234 49½	79½	79½	6	
		Noon	76 12½	10 20½		81	81		
	14 8 54	4 55 50	15 0½	10 10½	234 8½	81	80½	5	

1774.	Time by Watch K.		Apparent Time.	Altitude of the Sun's L.	Latitude South.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.		
	H	M	H	M	M	M	A.	B.				
March 29.	4	40	5	19 21 52	19 20 $\frac{1}{2}$	9 34	232	49 $\frac{1}{2}$	80	79	6	At anchor in Resolution Bay, in the island Ohitahoo, one of the Marquesas.
" 30.				Noon.	76 47	9 22 $\frac{1}{2}$			80 $\frac{1}{2}$	80 $\frac{1}{2}$		
	13	48	32	4 27 21	21 58 $\frac{1}{2}$	9 21 $\frac{1}{2}$	232	4	80	80	6	
	5	0	41	19 33 45 $\frac{1}{2}$	22 11 $\frac{1}{2}$	9 18 $\frac{1}{2}$	230	36 $\frac{1}{2}$	80 $\frac{1}{2}$	80	6	
" 31.				Noon.	76 28 $\frac{1}{2}$	9 17 $\frac{1}{2}$			80 $\frac{1}{2}$	80 $\frac{1}{2}$		
	14	8	15 $\frac{1}{2}$	4 38 38	19 9 $\frac{1}{2}$	9 20 $\frac{1}{2}$	229	55 $\frac{1}{2}$	80 $\frac{1}{2}$	80 $\frac{1}{2}$	5	
	4	33	1	18 58 33 $\frac{1}{2}$	13 31 $\frac{1}{2}$	9 27	228	41 $\frac{1}{2}$	80 $\frac{1}{2}$	80 $\frac{1}{2}$	5	
April 1.				Noon.	75 53	9 29 $\frac{1}{2}$						
	13	23	45	3 47 4	31 33 $\frac{1}{2}$	9 30	228	7	80 $\frac{1}{2}$	81	5	
	4	37	24	18 55 56	12 48 $\frac{1}{2}$	9 29	226	53 $\frac{1}{2}$	80	79 $\frac{1}{2}$	5	
" 2.				Noon.	75 30 $\frac{1}{2}$	9 28 $\frac{1}{2}$			81	81 $\frac{1}{2}$		
	13	12	55	3 29 14	35 45 $\frac{1}{2}$	9 29	226	19 $\frac{1}{2}$	81	81	4	
	4	42	17	18 53 54 $\frac{1}{2}$	12 14 $\frac{1}{2}$	9 32	225	7	80 $\frac{1}{2}$	80 $\frac{1}{2}$	5	
" 3.				Noon.	75 4	9 32 $\frac{1}{2}$			81 $\frac{1}{2}$	81 $\frac{1}{2}$		
	13	12	1	3 21 41	37 27 $\frac{1}{2}$	9 32 $\frac{1}{2}$	224	37 $\frac{1}{2}$	82	81 $\frac{1}{2}$	5	
	4	57	48 $\frac{1}{2}$	19 2 33	14 15 $\frac{1}{2}$	9 32 $\frac{1}{2}$	223	22 $\frac{1}{2}$	81 $\frac{1}{2}$	81 $\frac{1}{2}$	5	
" 4.				Noon.	74 41	9 32 $\frac{1}{2}$			82	82 $\frac{1}{2}$		
	13	51	49	3 54 11	29 32 $\frac{1}{2}$	9 32 $\frac{1}{2}$	222	45 $\frac{1}{2}$	82	82 $\frac{1}{2}$	5	
	5	20	51		18 11 $\frac{1}{2}$	9 33 $\frac{1}{2}$	221	42 $\frac{1}{2}$	82	81 $\frac{1}{2}$	5	
" 5.				Noon.	74 17	9 33 $\frac{1}{2}$			83	83		
	4	59	0	18 52 22	11 40 $\frac{1}{2}$	9 21	220	24 $\frac{1}{2}$	82	81 $\frac{1}{2}$	5	
" 6.				Noon.	74 8	9 19 $\frac{1}{2}$			83	83 $\frac{1}{2}$		
	14	47	33	4 38 12	18 47	9 30	219	45 $\frac{1}{2}$			1	
	5	1	56 $\frac{1}{2}$	18 51 14	11 17 $\frac{1}{2}$	9 36 $\frac{1}{2}$	219	23 $\frac{1}{2}$	80	77 $\frac{1}{2}$	5	
" 8.	14	25	14 $\frac{1}{2}$	4 12 45	24 38	9 55 $\frac{1}{2}$	218	54 $\frac{1}{2}$	84	82 $\frac{1}{2}$	5	
" 9.				Noon.	72 20 $\frac{1}{2}$	9 55 $\frac{1}{2}$	No Dip.			85		
	13	9	50	2 57 32	42 18 $\frac{1}{2}$	9 55 $\frac{1}{2}$	218	55 $\frac{1}{2}$	84	84 $\frac{1}{2}$	5	
" 10.				Noon.	71 57 $\frac{1}{2}$	9 55 $\frac{1}{2}$	No Dip.		83 $\frac{1}{2}$	84 $\frac{1}{2}$		
	12	49	24	2 37 12	46 49 $\frac{1}{2}$	9 55 $\frac{1}{2}$	218	55	83 $\frac{1}{2}$	84 $\frac{1}{2}$	5	
" 11.	12	50	11	2 37 54 $\frac{1}{2}$	46 40 $\frac{1}{2}$	9 55 $\frac{1}{2}$	218	53	85	85 $\frac{1}{2}$	6	
" 12.	14	48	13 $\frac{1}{2}$		18 51 $\frac{1}{2}$				80 $\frac{1}{2}$	81 $\frac{1}{2}$	6	
	5	20	13	19 5 26 $\frac{1}{2}$	14 4	10 34 $\frac{1}{2}$	218	11 $\frac{1}{2}$	81 $\frac{1}{2}$	79	5	
" 13.				Noon.	69 56 $\frac{1}{2}$	10 55 $\frac{1}{2}$			83 $\frac{1}{2}$	82 $\frac{1}{2}$		
	14	37	16	4 21 1 $\frac{1}{2}$	21 51 $\frac{1}{2}$	11 15 $\frac{1}{2}$	217	48 $\frac{1}{2}$	83	82 $\frac{1}{2}$	5	
	5	26	4	19 7 52	14 15 $\frac{1}{2}$	11 54 $\frac{1}{2}$	217	18 $\frac{1}{2}$	81 $\frac{1}{2}$	81 $\frac{1}{2}$	5	
" 14.				Noon.	68 5 $\frac{1}{2}$	12 24 $\frac{1}{2}$			83	82 $\frac{1}{2}$		
	14	34	0	4 13 28	23 9 $\frac{1}{2}$	12 40	216	43	83	83	5	
	5	35	21	19 11 56	14 48 $\frac{1}{2}$	13 20	215	58 $\frac{1}{2}$	81 $\frac{1}{2}$	82 $\frac{1}{2}$	5	
" 15.				Noon.	66 27	13 41 $\frac{1}{2}$			83	83		
	14	2	41	3 36 34	31 9 $\frac{1}{2}$	13 53 $\frac{1}{2}$	215	17 $\frac{1}{2}$	83	82 $\frac{1}{2}$	5	
	5	48	56	19 20 26	16 26 $\frac{1}{2}$	14 17 $\frac{1}{2}$	214	40 $\frac{1}{2}$	82 $\frac{1}{2}$	82	5	
" 16.				Noon.	65 29	14 17 $\frac{1}{2}$			82 $\frac{1}{2}$	83 $\frac{1}{2}$		
	14	26	0 $\frac{1}{2}$	3 54 56	26 42	14 18	214	2	82 $\frac{1}{2}$	83 $\frac{1}{2}$	6	
	6	7	1	19 33 38	19 19 $\frac{1}{2}$	14 28 $\frac{1}{2}$	213	26 $\frac{1}{2}$	82	81 $\frac{1}{2}$	5	
" 17.				Noon.	64 59 $\frac{1}{2}$	14 26 $\frac{1}{2}$						
	14	47	10 $\frac{1}{2}$	4 11 28 $\frac{1}{2}$	22 43 $\frac{1}{2}$	14 29 $\frac{1}{2}$	212	51			8	

Off the opening into Taonkah.

At anchor in Resolution Bay, in the island Ohitahoo, one of the Marquesas.

1' onked from N. 62° W. to S. 66° W. Off shore abt. 2 m.

Off the opening into Tancoke.

1774.	Time by Watch K.		Apparent Time.	Altitude of the ☉ L. L.	Latitude South.	Longitude East by K.	Thermom.		Z of ☉	Remarks.	
	H	M					A.	B.			
♀ May 27.	13	43	46 ¹ / ₂	2 37 2 ¹ / ₂	35 42 ¹ / ₂	16 45 ¹ / ₂	208 25 ¹ / ₂	80 ¹ / ₂	80 ¹ / ₂	6	
♂ — 28.			Noon.	51 33 ¹ / ₂	16 45 ¹ / ₂	No dip.	80	80 ¹ / ₂			
	13	5	56 ¹ / ₂	1 58 50	41 47 ¹ / ₂	16 45 ¹ / ₂	208 24 ¹ / ₂	79 ¹ / ₂	80 ¹ / ₂	6	
☉ — 29.	14	53	12	3 45 55 ¹ / ₂	22 32 ¹ / ₂	16 45 ¹ / ₂	208 26 ¹ / ₂		81 ¹ / ₂	6	
♂ — 30.	15	28	52	4 21 7 ¹ / ₂	15 13 ¹ / ₂	16 45 ¹ / ₂	208 24 ¹ / ₂	81 ¹ / ₂	82 ¹ / ₂	5	
♂ — 31.	14	38	56	3 30 52 ¹ / ₂	25 20 ¹ / ₂	16 45 ¹ / ₂	208 24 ¹ / ₂	81 ¹ / ₂	80 ¹ / ₂	6	
♀ June 1.	14	13	25	3 5 2	30 11 ¹ / ₂	16 45 ¹ / ₂	208 24 ¹ / ₂	82	81 ¹ / ₂	5	
♂ — 2.	14	29	53	3 21 12	27 3 ¹ / ₂	16 45 ¹ / ₂	208 25 ¹ / ₂	32	81	6	
♀ — 3.	14	17	37	3 8 37	29 22	16 45 ¹ / ₂	208 25 ¹ / ₂	83	81 ¹ / ₂	5	
♂ — 4.	14	19	27	3 8 54 ¹ / ₂	29 16 ¹ / ₂	16 42 ¹ / ₂	208 8 ¹ / ₂		81 ¹ / ₂	6	Bolabola N. 3° 1/2 E. West End of Otahe N. 58° E.
	8	12	3	20 58 30 ¹ / ₂	30 34 ¹ / ₂	16 44 ¹ / ₂	207 27 ¹ / ₂	81 ¹ / ₂	82 ¹ / ₂	10	
☉ — 5.			Noon.	50 29 ¹ / ₂	16 48			81 ¹ / ₂	82 ¹ / ₂		
	14	27	2	3 12 16	28 31	16 47 ¹ / ₂	207 23 ¹ / ₂	82	83	5	
	7	17	54	19 59 52	19 4 ¹ / ₂	16 54 ¹ / ₂	206 25 ¹ / ₂	82	81 ¹ / ₂	6	Very hazy.
♂ — 6.			Noon.	50 21	16 49 ¹ / ₂			82 ¹ / ₂	82 ¹ / ₂		Hazy, & bad horizon.
♂ — 7.	14	7	1 ¹ / ₂	2 41 32	33 37 ¹ / ₂	17 14 ¹ / ₂	204 40 ¹ / ₂	80 ¹ / ₂	80	2	Very cloudy.
	8	2	28 ¹ / ₂	20 34 56	25 30 ¹ / ₂	17 31 ¹ / ₂	204 14 ¹ / ₂	80	79 ¹ / ₂	6	
♀ — 8.			Noon.	49 26 ¹ / ₂	17 32 ¹ / ₂			81	80 ¹ / ₂		
	15	22	51 ¹ / ₂	3 54 28	19 45 ¹ / ₂	17 33	204 3 ¹ / ₂	82	82	4	
	6	52	23	19 21 57 ¹ / ₂	10 48 ¹ / ₂	17 37 ¹ / ₂	203 37	83	79	6	
♂ — 9.			Noon.	49 15	17 38 ¹ / ₂			81 ¹ / ₂	81		
	16	3	13	4 31 32	12 7	17 39 ¹ / ₂	203 19 ¹ / ₂	82	81	5	
	8	53	46	21 19 38 ¹ / ₂	33 17	17 47 ¹ / ₂	202 47 ¹ / ₂	79	76 ¹ / ₂	6	
♀ — 10.			Noon.	49 1 ¹ / ₂	17 48			78 ¹ / ₂	77 ¹ / ₂		Very cloudy.
	16	20	13	4 45 54	9 17 ¹ / ₂	17 49 ¹ / ₂	202 45 ¹ / ₂	78 ¹ / ₂	77 ¹ / ₂	6	Ditto.
	7	13	17	19 37 25	13 47 ¹ / ₂	17 51	202 26 ¹ / ₂	78 ¹ / ₂	77	6	
♂ — 11.			Noon.	48 48 ¹ / ₂	17 55 ¹ / ₂			78	77 ¹ / ₂		
	15	43	10	4 4 40	17 21 ¹ / ₂	18 0 ¹ / ₂	201 49 ¹ / ₂	77 ¹ / ₂	77	6	
☉ — 12.			Noon.	48 31	18 10 ¹ / ₂			75 ¹ / ₂	75		
	9	31	50	21 40 37 ¹ / ₂	35 48	18 46	198 49	76 ¹ / ₂	78 ¹ / ₂	3	
♂ — 13.			Noon.	47 51	18 45 ¹ / ₂			77 ¹ / ₂	80		
	15	41	33	3 47 42	20 12 ¹ / ₂	18 46 ¹ / ₂	198 11	78	77 ¹ / ₂	3	Cloudy.
	15	46	1	3 51 48	19 24 ¹ / ₂	18 46 ¹ / ₂	198 5 ¹ / ₂	78	77 ¹ / ₂	6	Ditto.
	15	57	57	4 4 1	17 0 ¹ / ₂	18 46 ¹ / ₂	198 7 ¹ / ₂	78	77 ¹ / ₂	6	Ditto.
	7	18	46	19 21 16 ¹ / ₂	10 1	18 40 ¹ / ₂	197 17 ¹ / ₂	76	75 ¹ / ₂	6	
♂ — 14.			Noon.	47 57 ¹ / ₂	18 35 ¹ / ₂			76	75 ¹ / ₂		
	16	6	29	4 7 45	16 20 ¹ / ₂	18 34 ¹ / ₂	197 4 ¹ / ₂	77 ¹ / ₂	76 ¹ / ₂	6	
	7	11	9	19 12 12	8 10 ¹ / ₂	18 32	197 3 ¹ / ₂	76 ¹ / ₂	75 ¹ / ₂	6	
♀ — 15.			Noon.	48 2 ¹ / ₂	18 27 ¹ / ₂			77	75 ¹ / ₂		
	16	8	51 ¹ / ₂	4 9 4	16 8 ¹ / ₂	18 25 ¹ / ₂	196 54 ¹ / ₂	76 ¹ / ₂	75 ¹ / ₂	5	
	8	3	33	20 1 46 ¹ / ₂	18 19 ¹ / ₂	18 20 ¹ / ₂	196 28 ¹ / ₂	76 ¹ / ₂	74 ¹ / ₂	6	
♂ — 16.			Noon.	48 16 ¹ / ₂	18 11 ¹ / ₂			75 ¹ / ₂	75 ¹ / ₂		
	15	56	7	3 54 58	19 9 ¹ / ₂	17 59 ¹ / ₂	196 40 ¹ / ₂	76	75 ¹ / ₂	3	
	7	28	59	19 23 20	10 43 ¹ / ₂	18 0 ¹ / ₂	195 36 ¹ / ₂	79	73 ¹ / ₂	6	
♀ — 17.			Noon.	48 22 ¹ / ₂	18 2 ¹ / ₂			75	75		

1774	Time by Watch K	Apparent Time	Altitude of the ☉ & L L	Latitude S	Longitude East by K	Thermom		Baromet	Remarks	
	H	H				A	B			
June 17	15 14 50	3 7 14	28 7½	18 5	195 9	75½	74½	6		
	15 25 51	3 18 0	26 8½	18 5	195 5½	75½	74½	6		
	7 33 58½	19 21 44	10 13½	18 16	194 3½	74	73½	6		
18	7 50 4	19 31 30	12 11½	18 22½	192 35½	75	74	5		
19		Noon	47 57½	18 24½		75½	74			
	16 23 46	4 2 57	17 15½	18 27½	192 4	70½	76	7		
	9 54 18	21 28 29½	33 43½	18 45	190 52½	76	76½	6		
20		Noon	47 32	18 49½		77	77			
	17 5 49	4 37 52	9 56½	18 59	190 22½	76½	76½	10		
	8 17 24	19 48 13	15 16½	18 55	190 8½	75½	76	5		
	9 7 35	20 38 11	24 52½	18 54½	190 5½	71	78½	8		
	11 7 30	22 37 28	42 53½	18 55½	189 55½	78	78	6		
21	Ramfden's Q	} Noon {	47 24½	18 56½	}	78	78	6	Off Savage Island	
	Dollond's Q		47 24½	18 57½						
	14 47 31	2 17 17	35 43½	19 1½	189 54½			6		
	16 5 4	3 34 48	22 24½	19 2	189 54	79½	78	6		
	8 14 28	19 41 49½	13 46	19 20	189 22½	77	76	6		
22		Noon	46 58½	19 23½		78	77½			
	16 41 23	4 7 28	15 51½	19 27½	189 5½	78½	77½	6		
	8 6 50	19 28 43	10 55½	19 43	188 6½	77½	76½	6		
23		Noon	46 32½	19 49½		78	77½			
	16 37 41	3 57 14½	17 33½	19 57½	187 33½	77½	77½	6		
	8 12 43	19 27 13	10 17½	20 24½	186 22	78	76½	6		
24		Noon	45 58	20 24½		79	79			
	17 10 37½	4 22 42½	12 21½	20 19½	185 48½	79½	78½	3		
	8 43 45	19 54 2	15 43½	20 12	185 24½	77	78	5		
	8 43 45		15 43½		ON 46 1'			5		
25	13 22 59		45 19½	20 20½	Ship's course S by W ½ W 4 miles an hour					
	14 27 3		40 2½		ON 19 W			6		
	14 27 3	1 37 14	40 2½	20 22	185 24½			6		
	8 31 55	19 41 0	13 3½	20 26½	185 13½	77	76	6		
26		Noon	46 2½	20 23½		75½	75			
	16 22 36	3 30 36	22 29½	20 15½	184 58½	75½	78	6		
	8 28 13½	19 36 0	12 10½	20 15	184 59½	75	74½	9		
	8 45 54	19 53 46	15 31½	20 15	185 0½			5		
27	Ramfden's Q	} Noon {	46 12	20 15½	}	76	74½	6	At Annamocka, one of the Friendly Islands	
	Dollond's Q		46 13	20 14½						
	14 59 55	2 7 34	36 16½	20 18	184 59½	76	74½	6		
	8 54 49½	20 2 8	17 21½	20 15	184 59			10		
28		Noon	46 15½	20 15	Ramfden's Quadrant					
			46 15½	20 14½	Dollond's Quadrant					
	17 28 14	4 35 26½	9 53½	20 15	184 59½	76½	74½	6		

1774.	Time by Watch K.		Apparent Time.		Altitude of the ☉'s L. L.		Latitude S.		Longitude East by K.		Thermom.		No. of Obs.	Remarks.	
	H	"	H	"	°	'	°	'	°	'	A.	B.			
♂ June 28.	Captain Cook and Mr. Cooper being both on shore at noon, and not coming off till late, I could not wind up the watch at the usual time; and being engaged in the evening, when they did come on board, making computations, &c. unfortunately forgot it until it was down. I wound it up as soon as I recollected it, set it a going, and soon after made the following observations:														
	6	36	29	19	54	4½	15	49½	20	15	1	75	74½	6	At Annamocka.
	Hence it appears, that the watch was 2 h. 10' 38" slower than before.														
	7	22	17	20	39	5½	24	31½	20	15	1	75½	75½	6	At Annamocka.
	By these the watch was 2 h. 10' 43" slower than before. The mean of both is 2 h. 10' 41"														
♂ — 29.	Noon. 46 27½ 20 05½ 76 74½														
	14	21	7½	3	38	24	21	9½	20	10	184	55½	76	76½	5
	7	11	57				22	36½	19	59½			75½	75	2
♂ — 30.	Noon. 46 44½ 19 51½ 75½ 75½														
	7	45	51½	20	57	18	27	54½	19	53	183	38½	74½	75	6
♀ July 1.	Noon. 46 46 19 54½ 74 75														
	14	58	38	4	8	2½	15	38½	19	57	183	9½	73½	73½	6
	7	23	51½	20	28	29½	22	38½	20	0½	182	2½	75	72	6
	7	29	28	20	33	56	23	38½	20	0½	181	59½	75	72	10
♂ — 2.	Noon. 46 41 20 3½ 72 72														
	16	2	54				4	8½	20	0			72	72½	5
	6	54	19	19	56	58	16	45	19	45	181	34½	73½	72	6
	7	1	39	20	4	2	18	9½	19	45	181	34½	73½	72	6
♂ — 3.	Noon. 47 1½ 19 47 73½ 74														
	15	11	39	4	13	30½	14	40½	19	48	181	28½	74	72½	6
	6	48	10½	19	48	38	15	3	19	58½	181	11	74	74½	6
	7	11	2	20	11	23	19	29½	19	58½	181	9½	75½	75½	6
	7	16	50	20	16	56	20	35½	19	58½	181	5½	75½	75½	6
	8	31	36	21	31	32	33	40½	20	0	181	3½	76	75½	6
♂ — 4.	Noon. 46 48½ 20 4½ 76 75½														
	15	12	26½	4	11	27	14	57	20	9	180	51½	75½	76½	6
	6	38	58½	19	35	6	12	4½	20	34½	180	11½	78	75	6
	6	46	46	19	42	49	13	36½	20	34½	180	10½	78	75	6
♂ — 5.	Noon. 46 20½ 20 38½ 76 75½														
	8	48	25	21	38	51	34	15	20	53	178	52½	76	76	6
♂ — 6.	Noon. 46 9 20 55½ 76 76½														
	15	53	44	4	42	12	8	28½	20	55½	178	24½	76	76½	6
	7	12	5	19	59	15	16	45½	20	53½	178	8½	76	75	8
♂ — 7.	Noon. 46 20½ 20 50½ 76½ 77														
	15	22	42	4	7	12	15	35½	20	48½	177	30½	77½	77½	6
	6	58	35	19	41	50	13	26½	20	47½	177	15½	76	75	6
♀ — 8.	Noon. 46 35½ 20 41½ 77½ 78														
	6	52	6	19	29	16	11	12½	20	20	175	49½	78	77	
♂ — 9.	Noon. 47 0½ 20 23½ 78 78														
♂ — 10.	Noon. 47 38½ 19 53½ 74½ 74½														
	14	47	27½	3	20	3½	25	24½	19	43	174	47½	74½	74	6
	Cloudy, and bad horizon.														

1774	Time by Watch K		Apparent Time		Altitude of the ☉		Latitude South		Longitude East by K		Therm		Remarks
	H	M	H	M	°	'	°	'	°	'	A	B	
O July 10.	6	59	41	19	31	36	12	32	18	49	174	40	Cloudy
D — 11				Noon	49	13	18	26			73	73	
	15	28	9	3	57	49	19	10	18	9	74	74	6
	7	3	3	19	31	28	18	8	17	38	75	75	
8 — 12				Noon	50	27	17	20			75	74	7
	15	46	43	4	12	57	16	38	17	7	76	76	
	7	2	8	19	27	1	12	45	16	36	76	75	6
8 — 13	15	28	8	3	51	26	21	31	16	18	75	75	
	6	52	29	19	13	36	10	18	15	49	75	76	6
4 — 14				Noon	52	25	15	39			77	78	
	15	15	43	3	35	3	25	19	15	32	78	77	6
	7	12	21	19	29	8	13	57	15	13	77	76	
8 — 15				Noon	53	4	15	9			78	79	6
	15	21	13	3	34	53	25	37	15	9	80	79	
	15	26	55	3	40	30	24	29	15	9	80	79	6
	9	25	43	21	33	24	38	33	15	5	78	79	
6 — 16				Noon	53	18	15	5			78	79	3
O — 17	11	6	52		51	32	15	3			78	79	
D — 18	12	16	28		53	25	15	3			78	76	8
	14	42	10		35	54	15	2			78	76	
	14	42	10	2	42	27	35	54	15	14	78	76	8
	15	56	27	3	56	52	21	17	15	19	78	76	
8 — 19				Noon	53	41	15	12			76	76	5
	15	58	45	3	59	49	20	47	15	17	77	76	
	16	1	48	4	2	53	20	7	15	17	77	76	3
8 — 20				Noon	53	36	15	28			74	75	
	16	35	35	4	36	32	12	54	15	39	75	75	7
	7	51	33	19	52	19	18	51	16	6	75	74	
4 — 21				Noon	52	59	16	17			76	77	6
	9	41	31	21	40	54	39	38	16	25	74	74	
8 — 22				Noon	53	3	16	25	16	21	76	76	6
	8	8	13	20	7	24	22	1	16	25	77	77	
6 — 23				Noon	53	15	16	24			79	80	6
	16	5	12	4	4	44	19	34	16	21	79	78	
O — 24	8	4	17	20	6	1	21	35	17	6	78	77	6
	9	38	49	21	40	9	39	23	17	11	78	77	
D — 25				Noon	52	47	17	18			79	80	2
	16	8	52	4	10	18	18	6	17	23	80	79	

☉ N by 1 1/2° at 10
Obs and N 75° W
ad ship's count 5 1/2
W 5 1/2 miles an hour

Ramsden's Quad
Dollond's Quad

N 8 points of Ambrin N 8 1/2
8 points of White n N 57 1/2
Ramsden's Quad
Dollond's Quad
In Sandwich's Har-
bour, in Mallico
Is.

Off Sandwich's Harbour

8 points of Ambrin N 8 1/2
8 points of White n N 57 1/2
Mallico's Isles 8 1/2 W

Monument 8 15 W
Three-hills Well

Three hills N 50° W
Shepherd's Isles N 30° E

Monument N 6 E
Montagu Isle S 61° W

E end of Montagu 2 60 W
Monument N 11 W

1774.	Time by Watch K.		Apparent Time.	Altitude of the Sun, L.	Latitude S.	Longitude East by K.	Thermom.		No of Obs.	Remarks.
	H	M					A.	B.		
d July 25.	7	29	21½	13 57½	17 21½	167 49½	79	78½	6	Monument N. 48° E. E. point of Montagu S. 49° E.
δ — 26.	11	43	41	52 36½	17 30½	Ship's course E. ½ S. 1½ miles an h. @ N. 47° ½ W. at 2 dobf.			3	Between Hinch- ingbroke and Mon- tagu Islands.
	13	51	12	43 37					5	
	16	28	52	13 53½	17 33	168 6½	80	81	6	Sandwich Island from S. 36° W. to S. 23° E.
	7	38	41	16 22½	17 52½	168 33½	74½	74	6	S. end of Sandwich S. 80° W. Traitor's Head S. 24° E.
8 — 27.			Noon.	52 31	18 0½		74	73½		Erramanga from S. to S. 17° E.
	16	13	55	16 17½	18 9½	168 52½	74½	74½	6	Erramanga S. 1° E. to S. 20° W.
	8	22	20	25 38½	18 25½	169 10½	72	72½	6	Erramanga from S. 26° W. to S. 61° W.
4 — 28.			Noon.	52 20½	18 24½		71½	71½		Traitor's Head S. 38° W.
	16	31	16	12 24½	18 24	169 8½	73	75	6	Traitor's Head S. 29° W.
	7	37	38	16 40	18 27	169 20	72	70½	8	Traitor's Head S. 51° W.
	7	45	28	18 19	18 27	169 20½	72	70½	8	
8 — 29.			Noon.	52 29	18 30½		73	74		Traitor's Head S. 61° W.
	16	28	23	13 0	18 34½	169 15½	73	72½	6	Traitor's Head S. 56° W.
h — 30.	8	53	6½	13 36	18 32½	168 58½	71½	70½	3	Traitor's Head S. 41° W.
			Noon.	52 40½	18 33½		72½	72½		
	16	27	19½	13 31½	18 30	169 5½	75	76½	6	Traitor's Head S. 12° W. distant about 7 leagues.
	7	40	48	17 10½	18 23	168 54½	74	73½	6	
	7	46	45	18 26½	18 23	168 56½	74	73½	3	
	7	59	22	21 1½	18 23	168 53	74	73½	8	
	9	56	20	42 46½	18 22	168 54½	74	76	6	
o — 31.			Noon.	53 7½	18 21		75	81		
	16	46	55	9 40½	18 24	168 53½	75	74½	6	Erramanga from S. 12° W. to S. 57° E.
	8	37	10	28 32½	18 24½	168 38½	74	75½	8	
	8	42	55	29 39½	18 24½	168 35½	74	75½	8	
d Aug. 1.			Noon.	53 10½	18 32½		74	73½		Erramanga from N. 8° E. to S. 12° E.
	16	23	42	14 58½	18 46½	168 28	75	76½	6	Off Traitor's Head.
	8	51	25½	31 3	18 45½	168 23½	75	76	8	
	8	58	4	32 19½	18 45½	168 23½	75	76	8	
δ — 2			Noon.	53 12½	18 46½		78	78½		
	16	47	46	9 58½	18 44	168 28	80	78	6	Erramanga from N. 36° E. to S. 12° E.
	8	42	28	29 52	18 38	168 48	75	73	8	Traitor's Head S. 16° W. and the land from S. 80° W. to S. 11° E.
	8	51	40	31 36½	18 38	168 47½	75	73	8	
8 — 3			Noon.	53 37½	18 36½		76½	74		Erramanga from S. 71° W. to S. 18° E.
	15	49	58	22 10½	18 41	168 43½	78	74½	6	

1774	Time by Watch K		Apparent Time		Altitude of the ☉ or L L	Latitude S	Longitude East by K	Thermon		Remarks
	H	M	H	M				A	D	
Aug 3	8	10 35	20 12 55 $\frac{1}{2}$	23 24 $\frac{1}{2}$	18 43 $\frac{1}{2}$	168 40 $\frac{1}{2}$	75	71 $\frac{1}{2}$	6	At anchor in the Bay N of L'Anse Head
4	8	18 10	20 20 32	24 57 $\frac{1}{2}$	18 43 $\frac{1}{2}$	168 40 $\frac{1}{2}$	75	71 $\frac{1}{2}$	6	
		Noon		53 46 $\frac{1}{2}$	18 43 $\frac{1}{2}$		76 $\frac{1}{2}$	78		
	15	20 4	3 22 58 $\frac{1}{2}$	28 18	18 44 $\frac{1}{2}$	168 48 $\frac{1}{2}$	78 $\frac{1}{2}$	77	6	Inland of Funia Head Latitude 11° 11' W
	7	7 4	19 10 31	9 57 $\frac{1}{2}$	19 26 $\frac{1}{2}$	168 58 $\frac{1}{2}$	75	73 $\frac{1}{2}$	6	
5	10	10 30 $\frac{1}{2}$		45 4 $\frac{1}{2}$	19 32 $\frac{1}{2}$		73 $\frac{1}{2}$	73	5	Off the entrance of Port Resolution In Port Resolution
	11	44 20		53 21 $\frac{1}{2}$			73 $\frac{1}{2}$	74 $\frac{1}{2}$	5	
6	I carried the Watch on shore at Port Resolution, in the island of Funia and noted the times of equal altitudes of the sun by it every day the weather would permit until the 19th (see p 97) From these observations it appeared that the Watch was now gaining 13,938 a day on mean time, and this rate being 5,105 different from that which had been allowed, would, it is plain cause a very considerable error in the situation of Aurora and the lands we first fell in with, as the relative situations of the several points had been determined by it To avoid this I computed the situations of the ship every day at noon, from our making Aurora to arriving at this place; and from thence corrected those of the several points of land which had before been settled by the Watch, according to the rate it was now going at and on supposition that the longitude of Port Resolution is 165 58 8 $\frac{1}{2}$, which is what the Watch gave it at its Point Venus rate And I computed the situations of the ship, and all lands seen after leaving Port Resolution on the same suppositions, it is obvious that I had only to determine the absolute error of the Watch at that place, and the true situations of all the other points would follow This error I found to be 0° 42' 57" too little, by a mean of 85 sets of observations of the moon's distance from the sun and stars, each set being the mean of from three to twelve single observations And in order to try whether the Watch had kept pretty near this rate all the time we were among these lands, I compared it with a mean of 32 sets of observations at Port Sandwich, with a mean of 48 sets at Pudyoua, or Observatory Isle, where I observed the solar eclipse and with 48 more at Botany Island, and its error at none of these places differed quite 3 from the above. On the 19th, in the morning, we									
20	7	26 10	19 30 58 $\frac{1}{2}$	16 27 $\frac{1}{2}$	19 24 $\frac{1}{2}$	169 32	71 $\frac{1}{2}$	71 $\frac{1}{2}$	6	Irianame S 45 I Irianame N 71 I Funium S 12 I
21		Noon		58 3	19 33 $\frac{1}{2}$		72	73 $\frac{1}{2}$		
	17	1 28 $\frac{1}{2}$	6 3 35	8 44 $\frac{1}{2}$	19 39 $\frac{1}{2}$	168 52 $\frac{1}{2}$		72	6	Irianame from S 59 I to N 76 I Latitude Head 9 I
	7	19 19	19 18 44	14 7 $\frac{1}{2}$	18 38	168 11 $\frac{1}{2}$	70 $\frac{1}{2}$	70 $\frac{1}{2}$	6	
22		Noon		59 38 $\frac{1}{2}$	18 18 $\frac{1}{2}$		72 $\frac{1}{2}$	75 $\frac{1}{2}$		Sandwich Island from N 32 L. to N 55 W
	16	2 8 $\frac{1}{2}$	4 0 8	23 31 $\frac{1}{2}$	18 1 $\frac{1}{2}$	167 50 $\frac{1}{2}$	73 $\frac{1}{2}$	74	6	

1774.	Time by Watch K.		Apparant Time.	Altitude of the ☉'s L. L.	Latitude South.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
	H	M	H	°	°	°	A.	B.		
Aug. 22.	8	0	58½	19 55 34½	23 7½	16 46	166 58½		6	Mallicola from N. 36°
	8	7	0	20 1 40	24 28½	16 46½	167 1½		6	E. to N. 35° W.
— 23.			Noon.	61 53½	16 23½		74½	73½		{ Mallicola from S. 35° E. to N. 43° W.
	7	25	32	19 19 4	15 17½	15 47½	166 43½	76½	4	Cloudy.
	8	53	51½	20 47 42	35 9½	15 40½	166 47½	76½	6	Off Tiera del Espiritu
— 24.			Noon.	63 14½	15 23½		77½	81		Sancto.
	16	49	32	4 43 6	15 1½	15 7½	166 42½	79	6	Cape Quiros N. 50° W.
	9	27	32	21 20 7	42 30½	14 54½	166 28	79½	6	Cape Quiros East.
— 25.			Noon.	64 2½	14 55½		79½	81½		{ C. Cumberland N. 66° W. Cape Quiros N. 86° E. C. Cumberland N. 58° W.
	14	16	31	2 8 44	48 51½	14 53½	166 22½	81	6	Cape Quiros N. 81° E.
	7	52	49	19 44 54½	21 39½	15 6½	166 20½	77½	6	C. Cumberland N. 52° W.
	7	56	38	19 48 56	22 34½	15 6½	166 23½	77½	6	Cape Quiros N. 48°
— 26.			Noon.	64 13½	15 5		78½	80½		W.
	16	32	54	4 25 2	19 23½	15 10	166 20½	81	6	In the bottom of the
	7	25	12	19 16 52	15 24½	14 45	166 12½	76½	10	Bay of Philip & James.
	7	30	3	19 21 44	16 32½	14 45	166 12½	76½	4	Cape Quiros S. 68½° E.
— 27.			Noon.	65 0½	14 39½		77½			{ C. Cumberland N. 60° W. C. Quiros S. 68½° E. C. Cumberland S. 88° W.
	15	8	22	2 59 38½	38 54½	14 37	166 6½	78	6	Ditto S. 36° W.
	7	43	11	19 33 31½	19 22½	14 47½	165 52½	77½	6	Ditto N. 40° E.
	7	49	39	19 39 58½	20 52	14 47½	165 52	77½	6	Ditto, N. 26° E.
— 28.			Noon.	65 10½	14 50½		78½	78½		Ditto, N. 26° E.
	17	3	32	4 54 13½	12 58½	14 48½	165 58½	80	6	Ditto, N. 26° E.
	7	50	37	19 40 45½	21 7½	14 57½	165 50½	80½	8	Ditto, N. 16° E.
	7	56	58½	19 47 14½	22 37½	14 57½	165 50½	80½	8	Ditto, N. 19° E.
— 29.			Noon.	65 2½	14 58½		79½	80		Ditto, N. 19° E.
	7	35	6	19 24 54½	17 27½	15 24½	165 43½	78	6	Off the West side of
— 30.			Noon.	65 2½	15 19½		79	79		Quiros' Tiera del
	15	0	51	2 52 14½	40 41½	15 21½	166 6½	78½	6	Elspiritu Sancto.
	17	5	38½	4 56 29½	12 31½	15 23½	165 57½	78½	6	
	7	58	35	19 49 42½	23 12½	15 43½	166 2½	76½	6	
— 31.			Noon.	65 20½	15 45		77½	77		{ Cape Lisburne N. 52° E. Bartholomew Ile N. 70° E.
	15	19	59	3 12 15½	36 20½	15 42½	166 18½	79	6	Cape Lisburne N. 31° W.
	9	9	57	20 59 10	38 39½	16 26	165 32½	74½	8	Bartholomew Ile N. 79° E.
	9	52	17	21 41 36	47 30½	16 27½	165 33½		6	
Sept. 1.			Noon.	64 53½	16 33½		76	75		
	7	13	42	18 59 54½	11 28½	17 46	164 46½	74½	6	
— 2.			Noon.	63 42½	18 6½		75½	76½		
	16	44	29	4 30 6½	18 16½	18 21	164 37	75½	6	
	9	0	26	20 44 20	34 44½	19 0½	164 10½	74½	5	Very cloudy.

1774	Time by Watch K		Apparent Time	Altitude of the Sun	Latitude S	Longitude East by K	Thermom		No of Obs	Remarks
	H	M					A	D		
1 Sept 3	16	12 13½	3 56 1	25 51½	19 12½	164 8½	74	74	9	
0 — 4	7	27 23½	19 10 50	13 46½	19 50	164 2½	73	73	6	
			Noon	62 33½	19 59½		74½	71		
	15	43 48	3 27 14½	32 1½	20 5½	164 2½	74½	74½	4	Cape Colinet S 41° 11' N Point of Island S 6° W
	8	38 49½		29 48½					10	Very cloudy
2 — 5			Noon	62 38½	20 16½					Dollond's Quadrant
				62 39½	20 16		75½	74		Ramden's ditto
See pages 101 to 104 for Observations made on board the ship, at anchor, off Pudyouna										
3 — 12	10	26 14½	12 9 48	53 41½	20 2	163 50	75	76½	6	Pudyouna S 21° W
4 — 13	15	13 13	2 55 34½	40 40½	19 47	163 31½			8	
	15	20 24½	3 2 49½	39 6½	19 47	163 32½			10	
5 — 14			Noon	66 51½	19 28½		75	76½		
	16	26 58	4 8 25	24 44½	19 18	163 16	75½	79	6	
	16	33 6	4 14 29½	23 21½	19 18	163 15	75½	79	3	
	7	13 49	18 55 35	11 52½	19 9½	163 18½	76	71	6	
6 — 15			Noon	67 27½	19 15½		78½	80		
	15	20 11	3 2 5½	39 48½	19 18	163 21½	80	83	4	
	15	25 37	3 7 36	38 36½	19 18	163 22½	80	83	7	Off the reefs which lie N of New Caledonia
	15	30 48	3 12 46	37 27½	19 18	163 22½	80	83	5	
	7	25 4	19 7 32	14 45½	19 33	163 28½	77	76	6	
7 — 16			Noon	67 31½	19 34½		77½	77½		
	16	31 23	4 14 46	23 31½	19 34	163 41½	78	80	6	
	8	42 3	20 26 53½	33 3½	19 49	164 2½	76½	76½	6	
8 — 17			Noon	67 35½	19 53½		77½	77½		
	16	42 1	4 27 8	20 44½	19 59	164 5½	77½	76½	6	
	8	2 37		24 19			76	75½	3	Very cloudy
9 — 18			Noon	67 48½	20 4½		77½	79		
10 — 19	7	26 3	19 15 35	17 4½	20 25	165 7½	74½	73	6	
	8	39 22½	20 28 46½	33 48½	20 29	165 5	75	75	5	
11 — 20			Noon	67 58½	20 41½		74½	73		Off New Caledonia
	15	51 25	3 40 56	31 33½	20 50½	165 6½	74½	73	6	
	7	0 25	18 50 56	11 27½	20 52	165 20½	73½	71	6	
12 — 21			Noon	68 7½	20 54½		74	73½		The Point above Cape Colinet S 80° W
	16	12 33	4 3 38	26 33½	20 57½	165 28½	74½	73½	6	The above Point N 83° W
	7	12 39	19 5 32	14 56½	21 12½	165 54½	73½	71	6	
13 — 22			Noon	68 0	21 25½		74½	73½		New Caledonia from N 88° W to S 36° E
	16	24 13	4 17 55	23 19½	21 37½	166 5½	74	72	6	
	7	57 56	19 52 40	25 47½	21 51½	166 20½	72½	71	6	Q Charlotte's Fore land S 28° E
14 — 23	9	29 59	21 24 44	46 7½	21 51	166 20½			6	Ditto, S 25° E
			Noon	67 55½	21 53½		73½	73		Ditto, S 23° E

1774.	Time by Watch K.	Apparent Time.	Altitude of the ☉'s L. L.	Latitude S.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
	H	H	°	°	°	A.	D.		
2 Sept. 23.	16 3 20½	3 58 40	27 47	22 0½	166 28½	74	73½	6	{ Q. Charlotte's Foreland S. 4° E. & C. Coronation S. 52° W.
	7 50 25	19 47 0	24 39	21 57½	166 46½	72½	72	6	
5 — 24.		Noon.	68 13	21 59½		74½	73		{ Q. Charlotte's Fore- land S. 26° W.
	14 51 50	2 48 2½	43 33½	22 4	166 40½	73½	74	6	
	7 9 56	19 6 7	15 24½	22 8	166 38½	73	71½	5	
10 — 25.		Noon.	68 25½	22 10½		74½	73½		{ C. Coronation N. 78° W. & Q. Char. Foreland S. 37° W.
	16 9 38	4 5 38	26 27½	22 20	166 34½	75	74½	6	
	7 13 53½	19 10 18½	16 31½	22 9½	166 40½	73	72	3	
13 — 26.		Noon.	68 43½	22 16		73½	73½		{ Isle of Pines S. 13°½ E. Cape Coronation N. 76½° W. Isle of Pines S. 1° E.
	16 22 57	4 20 32	23 14	22 20½	166 57½	76	73½	6	
	8 59 19½	20 57 32	40 48½	22 34½	167 5½	72	69	4	
18 — 27.		Noon.	68 50½	22 32½		70½	68½		{ Isle of Pines S. 53° W. Ditto, S. 48° W.
	15 55 17½	3 53 42½	29 27½	22 32½	167 8½	71½	69	6	
	7 54 1	19 52 28	26 22	22 49½	167 7½	68½	69	6	
19 — 28.		Noon.	69 1½	22 44½		71	71		{ Ditto, N. 45° E. Q. Charlotte's Fore- land N. 16° W.
	15 11 18	3 7 9½	39 57½	22 43½	166 28½	71	69½	6	
	8 5 35		28 44½					6	
	9 6 8		42 16	22 29½		71	73	6	
24 — 29.	Dollond's Qu. Rainfden's Q.	Noon.	69 42½	22 26½		72½	74		{ At anchor off Botany Island.
	14 12 32	2 8 40	52 42½	22 26½	166 31	73½	75	6	
	16 22 49	4 18 54½	24 31	22 26½	166 33½	75	74½	6	
28 — 30.		Noon.	69 58½	22 34½		74½	73		
	16 8 17	4 4 56	27 22½	22 40	166 37½	76	75½	6	
	7 55 1½	19 53 19	27 3½	22 51½	167 1½	71½	69	6	
1 Oct. 1.		Noon.	69 59½	22 56½		72	70½		
	16 6 54	18 53½	26 24½	23 2½	167 56½	73½	69½	6	
	7 12 36	19 16 58	18 52	23 17½	168 31½	69½	66	6	
	7 21 36	19 25 56½	20 53½	23 17½	168 31	69½	66	6	
10 — 2.		Noon.	70 0	23 19½		69½	66½		
	16 7 25	4 13 34½	25 37½	23 19½	168 58	71	69½	6	
	9 53 38	22 1 0	54 49½	23 55½	169 15½	69	67½	6	
11 — 3.		Noon.	69 38½	24 4½		70½	68½	6	
	15 41 8	3 50 38½	30 48½	24 19½	169 47	70½	68½	6	
	6 42 32	18 54 2	13 52½	25 1½	170 16½	68	66	6	
12 — 4.		Noon.	68 37½	25 28		68½	69½		
	15 50 59	4 4 10	27 36½	25 42½	170 41	69	69	5	
	6 43 55	18 57 24	14 44½	26 33½	170 44½	66	64½	6	
13 — 5.		Noon.	67 36½	26 53		67½	64½		
	15 49 49	4 3 48	27 44½	27 13	170 52½	68½	65½	6	
	6 50 26	19 4 50½	16 30	27 53	170 58½	65	62	6	
14 — 6.		Noon.	67 0½	27 52		66½	65		

1774	Time by Watch K		Apparent Time	Altitude of the Sun L	Latitude S	Longitude Ball h K	Inclinometer		No of Obs	Remarks
	H	M					A	B		
4 Oct 6	16 0 34	4 15 0	25 22 $\frac{1}{2}$	27 52	170 58	69	68 $\frac{1}{2}$	6		
	6 47 57 $\frac{1}{2}$	19 2 5 $\frac{1}{2}$	16 6 $\frac{1}{2}$	27 52 $\frac{1}{2}$	170 52 $\frac{1}{2}$	66	63	6		
7		Noon	67 23	27 52 $\frac{1}{2}$		70	71			
8	7 2 13 $\frac{1}{2}$	19 12 45 $\frac{1}{2}$	18 34 $\frac{1}{2}$	28 17	170 1 $\frac{1}{2}$	66	64 $\frac{1}{2}$	5		
		Noon	67 13 $\frac{1}{2}$	28 24 $\frac{1}{2}$		68	65 $\frac{1}{2}$			
	16 2 55	4 11 34 $\frac{1}{2}$	26 24	28 32 $\frac{1}{2}$	169 30	69 $\frac{1}{2}$	64 $\frac{1}{2}$	6		
	8 50 19	20 56 10 $\frac{1}{2}$	40 54 $\frac{1}{2}$	28 51 $\frac{1}{2}$	168 47 $\frac{1}{2}$		65	6		
		Noon	67 6 $\frac{1}{2}$	28 54 $\frac{1}{2}$		68	64 $\frac{1}{2}$			
	14 42 50	2 47 5	44 22 $\frac{1}{2}$	28 55	168 23 $\frac{1}{2}$	69	62 $\frac{1}{2}$	6		
	14 49 26	2 53 41	42 55 $\frac{1}{2}$	28 55	168 25 $\frac{1}{2}$	69	62 $\frac{1}{2}$	6		
	15 16 15 $\frac{1}{2}$	3 20 31	37 27	28 55	168 23 $\frac{1}{2}$	69	62 $\frac{1}{2}$	6		
	16 49 28 $\frac{1}{2}$	4 53 12	17 26 $\frac{1}{2}$	28 56	168 15 $\frac{1}{2}$	69	62 $\frac{1}{2}$	5		
	6 52 59	18 53 12	14 38	28 53	167 22 $\frac{1}{2}$	65 $\frac{1}{2}$	61 $\frac{1}{2}$	6	Norfolk Island S 52° E	
	9 46 24	21 46 48	51 16 $\frac{1}{2}$	28 54 $\frac{1}{2}$	167 25 $\frac{1}{2}$	66	62	6	Ditto, S 17° W	
10	Dollond & Co Ramfden & Co	Noon	67 26 $\frac{1}{2}$	28 58		66 $\frac{1}{2}$	63 $\frac{1}{2}$			Ditto, S 12° L
	16 30 18	4 30 28	22 36 $\frac{1}{2}$	29 0	167 21 $\frac{1}{2}$			8		
	16 44 25	4 44 38 $\frac{1}{2}$	19 31 $\frac{1}{2}$	29 0	167 21 $\frac{1}{2}$			5	Ditto, S 11° W	
	7 18 8	19 18 46 $\frac{1}{2}$	20 23	29 5 $\frac{1}{2}$	167 28 $\frac{1}{2}$	65 $\frac{1}{2}$	65	6	Ditto, N. 64° W	
		Noon	67 26	29 21 $\frac{1}{2}$		69 $\frac{1}{2}$	66 $\frac{1}{2}$			Ditto, N 4° W
	14 51 34	2 51 4	43 48 $\frac{1}{2}$	29 29	167 11 $\frac{1}{2}$	69 $\frac{1}{2}$	64 $\frac{1}{2}$	6		
	14 59 2	2 58 42	42 14 $\frac{1}{2}$	29 29	167 14 $\frac{1}{2}$	69 $\frac{1}{2}$	64 $\frac{1}{2}$	8		
	7 5 46	19 4 22 $\frac{1}{2}$	17 23 $\frac{1}{2}$	30 35 $\frac{1}{2}$	166 57 $\frac{1}{2}$	66	63 $\frac{1}{2}$	6		
12		Noon	66 8 $\frac{1}{2}$	31 1 $\frac{1}{2}$		69 $\frac{1}{2}$	66 $\frac{1}{2}$			
	15 25 54	3 24 58	36 26 $\frac{1}{2}$	31 17 $\frac{1}{2}$	167 4 $\frac{1}{2}$	70 $\frac{1}{2}$	65 $\frac{1}{2}$	8		
	16 55 55	4 55 4	17 38 $\frac{1}{2}$	31 25 $\frac{1}{2}$	167 5 $\frac{1}{2}$	70 $\frac{1}{2}$	65	5		
	7 18 51	19 19 11	20 36 $\frac{1}{2}$	32 39 $\frac{1}{2}$	167 23	65 $\frac{1}{2}$	62	6		
		Noon	64 37 $\frac{1}{2}$	32 54 $\frac{1}{2}$		68 $\frac{1}{2}$	65 $\frac{1}{2}$			
	15 46 15	3 48 2	31 34	33 4 $\frac{1}{2}$	167 45 $\frac{1}{2}$	70	63	6		
	15 52 37	3 54 36	30 14 $\frac{1}{2}$	33 4 $\frac{1}{2}$	167 48 $\frac{1}{2}$	70	63	6		
	7 14 18	19 18 32	20 35 $\frac{1}{2}$	33 43	168 22 $\frac{1}{2}$	66	61 $\frac{1}{2}$	6		
14		Noon	63 52 $\frac{1}{2}$	34 2 $\frac{1}{2}$		67 $\frac{1}{2}$	65 $\frac{1}{2}$			
	16 23 41	4 30 28	22 52 $\frac{1}{2}$	34 20 $\frac{1}{2}$	169 0	70 $\frac{1}{2}$	62 $\frac{1}{2}$	6		
	16 31 26	4 38 14 $\frac{1}{2}$	21 17 $\frac{1}{2}$	34 21	169 0 $\frac{1}{2}$	70 $\frac{1}{2}$	62 $\frac{1}{2}$	6		
	16 36 14	4 43 10	20 16 $\frac{1}{2}$	34 21	169 2 $\frac{1}{2}$	70 $\frac{1}{2}$	62 $\frac{1}{2}$	6		
	6 59 15	19 9 6 $\frac{1}{2}$	18 45 $\frac{1}{2}$	35 8 $\frac{1}{2}$	169 46 $\frac{1}{2}$	65	50	6		
15		Noon	62 45	35 32		67 $\frac{1}{2}$	65 $\frac{1}{2}$			
	7 15 34	19 32 37 $\frac{1}{2}$	23 31 $\frac{1}{2}$	37 9 $\frac{1}{2}$	171 34 $\frac{1}{2}$	64	60 $\frac{1}{2}$	6		
16		Noon	61 4 $\frac{1}{2}$	37 34 $\frac{1}{2}$		66 $\frac{1}{2}$	63 $\frac{1}{2}$			Very cloudy
	11 55 41		60 52		ON W at ad obf				6	
	13 10 1		54 42 $\frac{1}{2}$	37 34	Ship's course S E				6	
	6 56 21	19 18 24	20 47	38 57 $\frac{1}{2}$	5 $\frac{1}{2}$ miles an hour					
	9 37 57	22 0 27 $\frac{1}{2}$	49 38 $\frac{1}{2}$	39 12 $\frac{1}{2}$	172 49 $\frac{1}{2}$	62 $\frac{1}{2}$	58	5	C Egmont S 17° E	
17		Noon	59 37 $\frac{1}{2}$	39 24	172 57			6	Ditto, S 72° E	
						64 $\frac{1}{2}$	59			Ditto, N 33° E

1774.	Time by Watch K.		Apparent Time.		Altitude of the \odot 's L. L.		Latitude South.		Longitude East by K.		Thermom.		No. of Obs.	Remarks.		
	H	"	H	"	°	'	°	'	°	'	A.	B.				
D Oct. 17.	These bearings of Cape Egmont are a little doubtful, as we could not be absolutely certain of the Cape Point, on account of the fog over the land.															
8 — 18.	15	2	5	3	25	26	25	14	39	49	173	9	64 $\frac{1}{2}$	59 $\frac{1}{2}$	6	In Cook's Straits.
We got safe moored, the third time, in Queen Charlotte's Sound, New Zealand; and I got my Observatory and Instruments up on the 19th, but, on account of the bad weather, did not get equal altitudes of the Sun before the 22d, on which, and all future days, until November 5th, I compared the Watch with the Clock (see p. 112.). Hence it appeared, that the Watch was then gaining 12".576 a day on mean time, and that it was 12 h. 9' 38".86 too slow for mean time, at Queen Charlotte's Sound, on 5 October 22d, at noon. The Watch therefore places the Sound, this time, 173° 41' 28" $\frac{1}{2}$ East of Greenwich; that is, it makes the difference of Longitude between this place and Point Venus, in Otaheite, 36° 43' 42" $\frac{1}{2}$. I have here supposed the Watch to go at its Point Venus rate till August 7th, and after that time at its Tanna rate.																
If we allow the rate it went at, when at Greenwich, before the voyage, all the way from England, it will make the Sound 147° 34' 26" $\frac{1}{2}$ East of Drake's Island, or 143° 18' 19" East of Greenwich. Lastly, if it be supposed to have gone at the rate it went at when here last time, (viz. gaining 9".091 a day on mean time) it ought to have been too slow for mean time, on 5 November 5th, 1774, by 12 h. 26' 14".2; but as it was only 12 h. 6' 43" too slow at that time, it will appear to have erred from itself 19' 31".2 = 4° 52' 48" $\frac{1}{2}$ of longitude in one year all but a day.																
The following longitudes of the ship are computed on supposition that the Watch gains 12".576 a day on mean time, that it was 12 h. 6' 43" too slow for mean time, at Queen Charlotte's Sound, on 5 November 5th, at noon, and that the true longitude of the Sound is 174° 25' $\frac{1}{2}$, which is what the mean of all my Observations make it.																
11 Nov. 10.	6	34	57	18	59	12	22	14 $\frac{1}{2}$	42	18 $\frac{1}{2}$	175	10	63	58	5	
8 — 11.				Noon.			64	51 $\frac{1}{2}$	42	21 $\frac{1}{2}$			64 $\frac{1}{2}$	60	6	
	14	18	8 $\frac{1}{2}$	2	43	13	47	9 $\frac{1}{2}$	42	22 $\frac{1}{2}$	175	24	66	62	6	
	14	23	31	2	48	51 $\frac{1}{2}$	46	12 $\frac{1}{2}$	42	22 $\frac{1}{2}$	175	27 $\frac{1}{2}$	66	62	7	
	15	33	40	3	58	53	33	42 $\frac{1}{2}$	42	22 $\frac{1}{2}$	175	26 $\frac{1}{2}$	67	62 $\frac{1}{2}$	5	
	6	34	1	18	59	9 $\frac{1}{2}$	22	26 $\frac{1}{2}$	42	54 $\frac{1}{2}$	175	28 $\frac{1}{2}$	62 $\frac{1}{2}$	58	6	
6 — 12.				Noon.			64	16 $\frac{1}{2}$	43	13 $\frac{1}{2}$			64 $\frac{1}{2}$	61 $\frac{1}{2}$	6	
	15	45	3	4	12	42	31	14 $\frac{1}{2}$	43	27	176	7 $\frac{1}{2}$	65 $\frac{1}{2}$	64	6	
	15	50	35	4	18	26 $\frac{1}{2}$	30	13 $\frac{1}{2}$	43	27	176	11	65 $\frac{1}{2}$	64	6	
	6	24	17	18	55	0	21	56 $\frac{1}{2}$	44	7	176	58	62 $\frac{1}{2}$	54 $\frac{1}{2}$	6	
D — 14.	6	28	42	19	13	44	25	40	47	33	180	43	55 $\frac{1}{2}$	49 $\frac{1}{2}$	6	
8 — 15.	9	32	41				54	2 $\frac{1}{2}$	47 49 $\frac{1}{2}$ } Ship's course S. E. by E. 4 miles an hour.				51	5		
	17	55	45				59	12 $\frac{1}{2}$					52	4		
	17	24	35 $\frac{1}{2}$	6	13	38	11	21 $\frac{1}{2}$	48	10	181	45 $\frac{1}{2}$	58	52	6	
	6	8	12	19	1	28	23	48 $\frac{1}{2}$	49	12	182	52 $\frac{1}{2}$	53	47 $\frac{1}{2}$	6	
8 — 16.				Noon.			58	58 $\frac{1}{2}$	49	33 $\frac{1}{2}$			53	50		
	16	58	1 $\frac{1}{2}$	5	56	4	14	45 $\frac{1}{2}$	49	58 $\frac{1}{2}$	184	6 $\frac{1}{2}$	57 $\frac{1}{2}$	52	6	

ASTRONOMICAL OBSERVATIONS

1774	Time by Watch K		Apparent Time	Altitude of the ☉ 1 L	Latitude South	Longitude East by K	Therm		Wind	Remarks
	H	M					A	B.		
4 Nov 17	15 15 6	4 22 34	29 10	51 33	186 33	55	51	6		
2 — 18	5 36 22	18 51 16	22 40	52 31	188 28	50	47	6		
5 — 19		Noon	56 16	52 44		54	50			
6 — 21		Noon	55 34	53 41		55	49			
8 — 22	6 59 28	21 10 9	42 10	55 46	202 37	50	44	6		
		Noon	54 7	55 48		52	41			
8 — 23	6 54 22	21 11 46	42 35	55 42	204 41	51	43	6		Foggy
		Noon	54 26	55 42		52	44			
	13 20 39	3 39 4	36 8	55 42	204 58	56	48	5		
4 — 24	6 40 34	21 6 34	42 12	55 33	206 56	51	44	6		
		Noon	54 48	55 32		52	46			
2 — 25	6 30 13	21 13 8	43 20	55 13	211 18	50	43	6		
		Noon	55 23	55 9		52	45			
5 — 26	12 57 19	3 45 58	35 41	55 7	212 46	54	43	6		
		Noon	55 37	55 6		50	43			
0 — 27		Noon	55 52	55 3		51	44			
8 — 30	13 17 59	4 49 5	27 6	55 2	223 39	2	43	6		
4 Dec 1	2 2 33	Noon	55 54	55 31		54	47			
			21 6	55 12	237 1	50	44	6		Very hazy and a high f
2 — 2	6 40 18		55 5		ON 13° L at 1ft					
5 — 3	8 11 2		56 15	54 53	Observat Ships					
		Noon			course N E 5					Very foggy
0 — 4	2 38 17	19 15 28	28 38	53 21	241 2	52	47	6		
		Noon	58 47	53 15		56	41			
	11 20 42	4 2 58	34 51	53 15	242 27	58	41	6		
	2 29 53	19 19 58	29 24	53 9	244 30	50	41	5		
5 — 5	3 50 46	20 42 22	41 29	53 9	244 53	52	41	5		
		Noon	59 2	53 7		56	43			
8 — 6	11 21 24		32 44	53 6	246 12	58	43	6		
		Noon	59 7	53 10		56	43			
	11 58 22		24 55	53 12		60	43	6		
8 — 7	2 13 9	19 32 37	31 19	53 17	252 9	48	43	6		
		Noon	59 17	53 19		52	46			
	10 4 26	3 27 48	40 13	53 20	253 11	60	48	6		Cloudy
	10 7 59	3 31 33	39 41	53 20	253 14	60	48	2		Very cloudy
	11 23 37	4 47 34	28 30	53 20	253 20	61	50			
	2 51 11	20 20 57	38 37	53 29	254 54	53	44			
4 — 8		Noon	59 0	53 30		62	47			Ramsden's Quad
2 — 9		Noon	58 59	53 31		63	47			Dollond's
	2 8 30	19 45 54	33 37	53 50	258 23	53	44			
5 — 10	10 26 59	4 15 56	33 23	53 46	260 4	59	44			cloudy and a bad horizon
0 — 11	10 4 23	4 11 26	34 9	53 29	264 46	60	44			
	2 50 50	21 8 17	45 26	53 26	267 29	53	44	5		cloudy

1774.	Time by Watch K.	Apparent Time.	Altitude of the ☉'s L. L.	Latitude South.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
	H	H	°	°	°	A.	B.		
Dec. 12.		Noon.	59 28½	53 24½		61½	44½		
	8 43 40	3 5 5½	43 46	53 22½	268 31½	64½	47	8	
	8 52 48½	3 14 32	42 27½	53 22½	268 36½	64½	47	8	
	10 17 12	4 39 14½	30 6½	53 22½	268 41½	68½	46½	6	
	2 17 39	20 43 33½	42 13½	53 23½	269 46	58½	44½	6	
— 13.		Noon.	59 33½	53 23½		62½	47		
	9 38 21	4 7 53½	34 47½	53 23½	270 44½	63½	45½	6	
	2 3 21	20 41 58	42 4½	53 25	273 7½	58	44½	6	
— 14.		Noon.	59 36½	53 25½		62	46½		
	10 39 1	5 22 4	23 50½	53 26	274 17½	67	45½	5	
	1 37 26	20 27 58½	40 5½	53 29½	276 16½	56	45	6	
— 15.		Noon.	59 34½	53 30½		62½	46½		
	10 47 6½	5 44 6	20 41½	53 30½	277 55½	62½	45½	6	
	23 58 41	19 2 42½	27 35½	53 27½	279 48½	52	44	6	
— 16.		Noon.	59 41½	53 26½		62	46		
	9 32 4	4 41 41½	29 55½	53 25½	281 16½	62	46½	6	
	1 26 0½	20 43 3	42 19½	53 25	283 14½	62½	45	6	
— 17.		Noon.	59 48½	53 21½		62½	47		
	8 47 32	4 8 49½	34 50½	53 17½	284 21½	62½	47	6	
	23 10 54½	18 39 35	24 15½	53 41½	286 18½			6	
	2 57 23		54 35½	☉ N. 17° E.	The Ship's course S. E. 6½ miles an hour. The latitudes dedu- ced were, 54° 13½, and 54° 13½.			5	
— 18.		Noon.	58 58½	54 13½					Cape Gloucester N. 17° E.
	4 41 56		58 53½					5	Cape Noir S. 62° E.
	6 29 57		51 50½	☉ N. 68° W.				5	Cape Noir S. 62° E.
	8 45 30	4 17 18½	13 28½	54 36½	287 9½		50	6	Cape Noir N. 2° W.
	22 13 42	17 50 44	17 37½	55 13½	288 34½	54	45½	5	Cape Desolation N. 4° E.
	0 59 36½	20 38 42½	41 9	55 17½	289 6½	59	46½	6	C. Desolation N. 56° W. Gilbert's Is. N. 62° E.
— 19.		Noon.	57 54	55 20½		64½	50½		Gilbert's Is. N. true.
	8 44 46	4 24 26½	32 23	55 30½	289 18½	65½	48	6	
	23 25 48	19 7 26½	28 25½	55 38½	289 54½	65½	54	6	York Master N. 17° E.
— 20.		Noon.	57 36	55 39½		65½	54		York Minister N. 6° W.
	8 32 21	4 15 2½	33 43½	55 31½	290 15	68	53½	6	
This evening we anchored in Christmas Sound, on the S. W. side of Terra del Fuego, where I found that the watch was gaining 12", 377 a day on mean time, which is so near what it was gaining at New Zealand, that I made no difference in the manner of computing the longitude of the ship by it. It made the longitude of Christmas Sound 290° 19' 41"½ East of Greenwich.									
— 28.	9 33 9	5 13 48	25 20½	55 49½	291 5½			8	St. Ildesonso's Isles S. 40° to 50° W.
	0 50 57	20 39 1½	40 50½	55 56½	293 6½	58	49½	7	C. Horne S. 63° W. about 6 miles off.

1774	Time by Watch K	Apparent Time	Altitude of the ☉ L. L.	Latitude South	Longitude East by K	Thermom		No of Obs.	Remarks.
	H M S	H M S				A	B		
14 Dec. 29		Noon	57 21 $\frac{1}{2}$	55 43 $\frac{1}{2}$		64	52 $\frac{1}{2}$		Barnevell siles 38° W. Brou s lde N 69° W
	8 6 42	3 59 42	35 43 $\frac{1}{2}$	55 28	294 24 $\frac{1}{2}$	64 $\frac{1}{2}$	53	8	
	9 55 57	5 49 52	20 12 $\frac{1}{2}$	55 20	294 38 $\frac{1}{2}$	66	52 $\frac{3}{4}$	6	
	1 6 4	21 1 32	44 9 $\frac{1}{2}$	54 52 $\frac{1}{2}$	295 8 $\frac{1}{2}$	63	54	6	Success Bay N W
2 — 30		Noon	58 8 $\frac{1}{2}$	54 53		65	56 $\frac{1}{2}$		Success Bay S 81° W C Diego N 45° W and C St. Anthony N 45 E.
	9 41 42	5 36 50	21 54 $\frac{1}{2}$	54 55	295 7 $\frac{1}{2}$	65	54	6	C of Good Success S 16° W C. St Diego N 15 W
5 — 31		Noon	58 15	54 42 $\frac{1}{2}$		62	52 $\frac{1}{2}$		
	8 38 17	4 37 2	30 24 $\frac{1}{2}$	54 41	296 9 $\frac{1}{2}$			6	
	9 36 16	5 34 49	22 7 $\frac{1}{2}$	54 41	296 8 $\frac{1}{2}$	63 $\frac{1}{2}$	51 $\frac{1}{2}$	6	At anchor off New
	23 13 33	19 11 25	28 42 $\frac{1}{2}$	54 41	296 4 $\frac{1}{2}$	59 $\frac{1}{2}$	52	6	Year's Island
			58 3	54 48 $\frac{1}{2}$	No dip				In New Year's Har- bour, Staten Land
1775 O Jan. 1		Noon	58 12	54 40 $\frac{1}{2}$	Dip 3 30'				Observed by C Cook on the N E. point of New Year's Island
	0 14 41	20 11 54	37 17 $\frac{1}{2}$	54 41	296 8 $\frac{1}{2}$	59 $\frac{1}{2}$	47	6	
	2 26 7 $\frac{1}{2}$		53 21 $\frac{1}{2}$	54 41		56 $\frac{1}{2}$	47 $\frac{1}{2}$	5	
	6 40 36		46 42 $\frac{1}{2}$	54 41		64 $\frac{1}{2}$	49 $\frac{1}{2}$	2	At anchor off New
	6 52 14		45 12 $\frac{1}{2}$			64 $\frac{1}{2}$	49 $\frac{1}{2}$	5	Year's lles
	8 45 16	4 42 13 $\frac{1}{2}$	29 32 $\frac{1}{2}$	54 41	296 6	67 $\frac{1}{2}$	51 $\frac{1}{2}$	6	
	22 22 18	18 20 3	21 13 $\frac{1}{2}$	54 46 $\frac{1}{2}$	296 22 $\frac{1}{2}$	57 $\frac{1}{2}$	49	5	C St Juan S. 54° W distant about 5 miles
	1 9 12 $\frac{1}{2}$	21 6 40	44 32 $\frac{1}{2}$	54 54	296 19 $\frac{1}{2}$			6	C St Bartolomew S 59° W C 8 Juan N
8 — 3		Noon	57 47	54 55 $\frac{1}{2}$		44 $\frac{1}{2}$	52 $\frac{1}{2}$		C St Juan N 2° W
	7 36 55	3 34 24	39 3 $\frac{1}{2}$	54 53	296 22 $\frac{1}{2}$			4	Ditto N 2° W
	22 22 55 $\frac{1}{2}$	18 25 40	22 0 $\frac{1}{2}$	55 11 $\frac{1}{2}$	297 47 $\frac{1}{2}$	54 $\frac{1}{2}$	47	6	
8 — 4		Noon	57 4 $\frac{1}{2}$	55 32 $\frac{1}{2}$		60	51		
	22 53 28	19 8 29 $\frac{1}{2}$	27 56	56 47 $\frac{1}{2}$	300 59 $\frac{1}{2}$	50	44	6	
14 — 5		Noon	55 22 $\frac{1}{2}$	57 8 $\frac{1}{2}$		59	47		
	9 11 46	5 33 16	22 19 $\frac{1}{2}$	57 17 $\frac{1}{2}$	302 43 $\frac{1}{2}$	64	46 $\frac{1}{2}$	5	
	0 37 48 $\frac{1}{2}$	21 8 45 $\frac{1}{2}$	43 9 $\frac{1}{2}$	57 47	305 11 $\frac{1}{2}$	55 $\frac{1}{2}$	43	6	
8 — 6			53 59 $\frac{1}{2}$		Ship's course				
	5 45 37 $\frac{1}{2}$		46 27 $\frac{1}{2}$	57 53 $\frac{1}{2}$	E 6 miles an hour			6	
	7 24 34	4 0 10	34 33 $\frac{1}{2}$	58 2	306 26 $\frac{1}{2}$	67 $\frac{1}{2}$	43	8	Cloudy
	10 30 29	19 9 11	27 52 $\frac{1}{2}$	57 20 $\frac{1}{2}$	307 16 $\frac{1}{2}$	47	40 $\frac{1}{2}$	8	Bad horizon
5 — 7		Noon	55 16 $\frac{1}{2}$	57 0 $\frac{1}{2}$		61	40 $\frac{1}{2}$		
	7 50 50	4 28 44	30 53 $\frac{1}{2}$	56 37 $\frac{1}{2}$	307 8 $\frac{1}{2}$	62	43	6	
	23 24 30	20 4 50	35 35 $\frac{1}{2}$	55 14 $\frac{1}{2}$	307 54 $\frac{1}{2}$	51 $\frac{1}{2}$	44	6	
O — 8		Noon	57 0 $\frac{1}{2}$	55 8 $\frac{1}{2}$		61 $\frac{1}{2}$	49		
	7 31 16	4 14 28	32 58 $\frac{1}{2}$	55 4 $\frac{1}{2}$	308 37 $\frac{1}{2}$	67 $\frac{1}{2}$	50 $\frac{1}{2}$	6	
8 — 9		Noon	56 49 $\frac{1}{2}$	55 11 $\frac{1}{2}$		63	43 $\frac{1}{2}$		

1775.	Time by Watch K.		Apparent Time.	Altitude of the ☉'s L. L.	Latitude S.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
	H	M	H	°	°	°	A.	B.		
3 Jan. 10.			Noon.	57 17½	54 35½		66½	45		Very cloudy.
	21	39	13	23 57½	54 38½	314 34½	51½	42½	6	
4 — 11.			Noon.	57 7½	54 36½			47		
	7	4	18	4 14 18	54 35½	315 47½	69	45	6	
4 — 12.			Noon.	57 6½	54 28½		59½	42½		
5 — 14.			Noon.	57 18½	53 56½		61½	37½		
	6	47	5	4 15 42	53 57½	320 53½	61½	37½	6	Willis's Isle N. 83° E.
	7	47	29	5 16 6½	53 57½	320 54	62½	37½	4	
			Noon.	56 28½	54 25½		57½	39½	6	
5 — 16.				3 58 0	54 8½	321 59½				
	20	57	12	18 32 54	53 58	323 1½	52	35½	6	Pollifion Bay S. 25° E.
8 — 17.			Noon.	56 41½	54 0½		61½	39½		C. Buller N. 85° W. Cape Saunders S. 85° E. and Pollifion Bay S. by E. 3 miles.
	5	53	16½	3 30 38½	54 3½	323 29½	62	39½	6	
	21	6	57	18 47 5½	54 21	324 16½	49½	37½	6	
8 — 18.			Noon.	56 0½	54 30½		62	43		Cooper's Island S. 18° E. Cape Saunders N. 73° W. Cooper's Island S. 2° W. Cape George S. 67° W.
	5	59	17	3 40 26	54 35	324 34½	66½	41½	6	
	21	46	52	19 28 16	54 42½	324 42½	49½	37½	6	
24 — 19.			Noon.	55 35½	54 42½		60½	45		Ditto, S. 53° W. Clarke's Island E. S. E. C. Charlotte S. 49° W. A rock off Sandwich Bay S. 80° W.
	6	1	59	3 43 0	54 47½	324 40½	61	42	6	
	20	49	3	18 27 49	55 0½	324 11½	52	39	6	
2 — 20.			Noon.	55 2½	55 3½		66	43		Pickergill's Island N. 59° W. C. Disappointment. N. 11° W.
	6	38	0	4 18 25	55 10½	324 39	62½	39	6	
	6	56	16	4 41 18	55 15	325 55½	68	40	6	
8 — 25.				52 53½	56 0½	☉ N. 78° W. at 2d Obs. Ship's course E. by S. 5 miles an hour.				The horizon bad.
	5	48	56	34 53½						
	6	28	35	4 18 54½	56 9½	327 43½			4	
	20	39	9	18 35 40	57 8½	329 20	47½	42½	5	
	20	41	40	18 37 55	57 8½	329 16	47½	42½	5	
24 — 26.			Noon.	51 4½	57 38½		62	41½		
	20	48	8	18 44 20	59 15	329 21½	49½	39	7	
27.	23	0	47½	21 0 24	60 4½	330 29½	60½	35½	5	Foggy.
28.			Noon.	48 7½	60 5½		63	37		Ditto.
	6	57	29½	5 0 0	60 5½	331 5	63½	33½	4	Very cloudy.
29.			Noon.	47 55½	60 1½		64	39		Ditto.
31.			Noon.	48 12½	59 12½		61	37		Thule S. S. W. 7 or 8 leagues off.
	5	2	29	3 11 32	59 6	333 0½	65	39½	6	

1775	Time by Watch K		Apparent Time	Altitude of the Sun L L	Latitude South	Longitude East by K	Thermom.		Barom.	Remarks
	H	M					A	D		
♂ Jan 31	20	1 52	18 11 14	16 4 $\frac{1}{2}$	58 37 $\frac{1}{2}$	333 8 $\frac{1}{2}$	48 $\frac{1}{2}$	33 $\frac{1}{2}$	5	C. Montagu N 45 E
♀ Feb, 1			Noon	48 42 $\frac{1}{2}$	58 25		64 $\frac{1}{2}$	39		Ditto B & Friedland Peak 8 26 E
♂ — 2	5	2 40	3 11 53 $\frac{1}{2}$	35 51 $\frac{1}{2}$	58 21 $\frac{1}{2}$	333 8 $\frac{1}{2}$	66	35	4	
♀ — 3	7	49 53	5 59 50	14 10	57 48 $\frac{1}{2}$	333 24 $\frac{1}{2}$	62	37	6	
♂ — 4	2	10 48		49 11 $\frac{1}{2}$			61 $\frac{1}{2}$	66	4	
♀ — 5	21	14 1 $\frac{1}{2}$	19 27 38 $\frac{1}{2}$	25 33 $\frac{1}{2}$	56 44	334 27	56	36 $\frac{1}{2}$	4	
♂ — 6			Noon	49 32	56 44		64	38		
♀ — 7	20	43 7	19 1 48	21 46 $\frac{1}{2}$	57 6	335 47 $\frac{1}{2}$	46 $\frac{1}{2}$	36 $\frac{1}{2}$	8	A bad horizon
♂ — 8	7	14 26	5 38 1	16 17	57 16 $\frac{1}{2}$	337 3 $\frac{1}{2}$	57	37	6	
♀ — 9	20	23 14	19 1 22	26 7	58 21	340 48 $\frac{1}{2}$			1	
♂ — 10	22	8 3	20 47 46 $\frac{1}{2}$	34 19 $\frac{1}{2}$	58 21 $\frac{1}{2}$	341 12 $\frac{1}{2}$	50 $\frac{1}{2}$	38	6	
♀ — 11			Noon	46 55 $\frac{1}{2}$	58 26 $\frac{1}{2}$		56 $\frac{1}{2}$	37 $\frac{1}{2}$		
♂ — 12	1	33 11		46 51 $\frac{1}{2}$		ON 58° W at 2d Observation				6
♀ — 13	3	38 57		39 19 $\frac{1}{2}$	58 24	Ship's course E 8 miles in hour				6
♂ — 14	6	50 28 $\frac{1}{2}$	5 39 13	15 42 $\frac{1}{2}$	58 28 $\frac{1}{2}$	343 29 $\frac{1}{2}$	57	35	8	
♀ — 15	20	1 29	18 55 58 $\frac{1}{2}$	20 8 $\frac{1}{2}$	58 29 $\frac{1}{2}$	344 57 $\frac{1}{2}$	45 $\frac{1}{2}$	35 $\frac{1}{2}$	6	
♂ — 16			Noon	46 33 $\frac{1}{2}$	58 29 $\frac{1}{2}$		59 $\frac{1}{2}$	37 $\frac{1}{2}$		
♀ — 17	19	15 0	18 16 56	14 48 $\frac{1}{2}$	58 28	346 52 $\frac{1}{2}$	47 $\frac{1}{2}$	35 $\frac{1}{2}$	3	
♂ — 18	20	31 36	19 33 40	24 44 $\frac{1}{2}$	58 28	346 54 $\frac{1}{2}$	52	35 $\frac{1}{2}$	6	
♀ — 19				46 18 $\frac{1}{2}$	58 26 $\frac{1}{2}$		62 $\frac{1}{2}$	40		
♂ — 20	5	9 58	4 13 34 $\frac{1}{2}$	26 16 $\frac{1}{2}$	58 26 $\frac{1}{2}$	347 19 $\frac{1}{2}$	67	40	6	
♀ — 21	18	58 57 $\frac{1}{2}$	18 6 52	13 11 $\frac{1}{2}$	58 17	348 25 $\frac{1}{2}$	50	33	6	
♂ — 22			Noon	46 10 $\frac{1}{2}$	58 15 $\frac{1}{2}$		60	34 $\frac{1}{2}$		
♀ — 23	4	59 18	4 15 6	25 50 $\frac{1}{2}$	58 16 $\frac{1}{2}$	350 25 $\frac{1}{2}$	61	34	2	
♂ — 24	22	6 52	21 28 52	37 44 $\frac{1}{2}$	58 7	352 0 $\frac{1}{2}$	61	34	6	
♀ — 25			Noon	45 54 $\frac{1}{2}$	58 6 $\frac{1}{2}$		46	36 $\frac{1}{2}$		
♂ — 26	19	20 3	18 46 38 $\frac{1}{2}$	17 51 $\frac{1}{2}$	58 23	353 12 $\frac{1}{2}$	50 $\frac{1}{2}$	33		
♀ — 27			Noon	45 26 $\frac{1}{2}$	58 20 $\frac{1}{2}$		66	37 $\frac{1}{2}$		
♂ — 28	5	2 8	4 30 26 $\frac{1}{2}$	23 19 $\frac{1}{2}$	58 20	353 29 $\frac{1}{2}$	67	35 $\frac{1}{2}$	6	
♀ — 29	19	19 6	18 51 48	18 15 $\frac{1}{2}$	58 2	354 47			5	
♂ — 30			Noon	45 30 $\frac{1}{2}$	57 56 $\frac{1}{2}$		59 $\frac{1}{2}$	33		
♀ — 31	19	42 35	19 31 10 $\frac{1}{2}$	23 16	57 28 $\frac{1}{2}$	358 48 $\frac{1}{2}$	43	32	6	A great sea.
♂ — 1			Noon	45 43 $\frac{1}{2}$	57 23 $\frac{1}{2}$		52 $\frac{1}{2}$	32 $\frac{1}{2}$		
♀ — 2	4	24 24	4 19 36	24 23 $\frac{1}{2}$	57 20	0 28 $\frac{1}{2}$	54 $\frac{1}{2}$	37	8	An exceeding high sea.
♂ — 3	19	12 54 $\frac{1}{2}$	19 19 42	21 35 $\frac{1}{2}$	56 47 $\frac{1}{2}$	3 23 $\frac{1}{2}$	43 $\frac{1}{2}$	34 $\frac{1}{2}$	3	Cloudy & a great sea
♀ — 4	19	56 23 $\frac{1}{2}$	20 3 32	27 23 $\frac{1}{2}$	56 46 $\frac{1}{2}$	3 29 $\frac{1}{2}$	46	34 $\frac{1}{2}$	6	
Having now made upwards of 360° of Longitude, I rejected a circle, and repeated a February 14th, to make my day correspond with the day at Greenwich										
♂ — 5			Noon	46 9 $\frac{1}{2}$	56 37 $\frac{1}{2}$		56 $\frac{1}{2}$	35 $\frac{1}{2}$		
♀ — 6	4	20 34	4 33 54 $\frac{1}{2}$	22 26 $\frac{1}{2}$	56 18	5 3 $\frac{1}{2}$	57	35 $\frac{1}{2}$	6	
♂ — 7	20	7 21	20 24 8	30 13 $\frac{1}{2}$	55 30 $\frac{1}{2}$	5 56 $\frac{1}{2}$	50	35 $\frac{1}{2}$	6	A troublesome sea
♀ — 8			Noon	47 0 $\frac{1}{2}$	55 26 $\frac{1}{2}$		58	36 $\frac{1}{2}$		

1775.	Time by Watch K.		Apparent Time.	Altitude of the ☉'s L. L.	Latitude S.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
	H	M					A.	B.		
24 Feb. 16.	4	39	55	18 28½	54 24½	6 47½	60	33½	6	
	19	16	40	24 27½	54 21½	8 24½	50	33	6	
2 — 17.			Noon.	47 21½	54 23½		58½	36	6	
	3	44	4	24 35½	54 25	9 36½	65	36½	6	
5 — 18.			Noon.	47 0½	54 23		61½	34½	6	Very cloudy.
6 — 19.	20	0	22½	33 30½	54 13½	16 3		36½	6	
7 — 20.			Noon.	46 26	54 15½		56	40	6	
	19	33	4	20 39 53½	54 25½	18 37½	55	36	6	
8 — 21.			Noon.	45 55½	54 24½		61	37	6	Cloudy.
	3	5	38	23 18½	54 22½	19 32½	64	37	8	Cloudy and bad horizon.
	18	16	19	21 43	55 4	21 36½	47½	35	3	Cloudy.
	18	21	48½	22 24½	55 4	21 31½	47½	35	2	Very cloudy.
	21	11	21	41 36½	55 11	Ship's course S. E. ½ E. 5½ miles an hour.			5	
	22	26	10	44 44½					2	Very cloudy.
	23	23	19	43 53½					5	
24 — 22.			Noon.	45 10½	54 26½		61½	35½	5	
24 — 23.	18	16	43	24 28½	53 9½	26 35	50	37	4	Ditto.
	19	22	52	33 23½	53 5½	26 34	52	38	8	Cloudy.
2 — 24.			Noon.	46 23½	52 51½		59½	38½	5	
	17	33	29½	19 32	50 52½	28 38			5	
5 — 25.			Noon.	48 19	50 33½		54	41	6	
	18	7	45	25 38½	49 37	29 58½	56	40½	6	
	19	45	24	39 24½	49 31½	30 4½	59	42	6	Ditto.
6 — 26.			Noon.	49 9½	49 20½		62½	45½		
7 — 27.			Noon.	50 9½	47 58½		66½	47		
8 — 28.	23	5	20½	47 44½	46 54	☉ N. 31 W. at 2d Observation. Ship's course N. W. 4½ miles an h.			6	Bad horizon.
	0	39	41½	37 0					5	
	2	25	28	20 25½	46 49	33 46½	63½	43½	6	
8 March 1.	17	27	0½	19 39½	45 54	31 24			8	Very cloudy.
24 — 2.			Noon.	51 27	45 32½		54½	47	6	
	2	11	56	44 24½	45 14	31 2½	54	43	6	
	17	18	13	17 25½	44 8½	30 19½	49	42	6	
2 — 3.			Noon.	52 43½	43 53½		49½	44	6	
	2	27	0	22 35	43 34½	30 6½	52½	44	6	
	17	29	16	18 34½	43 43½	29 27½	53½	51½	10	Very hazy.
5 — 4.			Noon.	52 26½	43 46½		50½	55	3	
	1	45	5	30 16½	43 49½	28 52½	59	57	6	
	1	56	28	28 21	43 49½	28 55	59	57	6	
	17	33	24½	17 39½	44 5½	27 35½	56½	53	6	
6 — 5.			Noon.	52 1	43 49½		58½	50½	6	
	17	41	3	18 59½	42 44½	27 36½	54	51½	6	
7 — 6.			Noon.	53 3½	42 23½		56½	52½	2	
	1	7	35	37 29	42 14	26 55½	59½	54	6	
	17	9	32	12 37½	41 33		57½	57	6	

1775	Time by Watch K		Apparent Time	Altitude	Latitude	Perpetual Table by K	D			R
	H	M					A	B	C	
8 March 7			Noon	53 15	11 15		63	61		
	1	29 27	3 7 4	31 2	11 9		61	60		
	17	54 2	19 31 5	20 13	41 31	26 27	61	62		
8 — 8			Noon	5 1	11 17		61	61		
	17	21 59	18 57 51	13 55	12 11	5 44	60	61		
11 — 9			Noon	52 10	42 6		60	61		
	3	0 49	4 32 36	18 51	42 9	1 31	59	60		
	18	5 37	19 36 9	20 32	11 10	1 35	58	59		Very cloud
9 — 10			Noon	52 56	10 56		59	59		
	1	55 25	3 24 41	51 52	10 50	21 16	60	52		
	2	26 6	3 55 21	42 2	10 19	1 15	61	5		
	17	37 31	19 6 32	14 59	10 3	21 12	57	1		
10 — 11			Noon	53 26	10 20		59	57		
	20	37 6	22 8 20	46 4	38 57	1 13	61	61		Very cloudy
11 — 12			Noon	54 15	38 50		61	61		
	1	34 25	3 4 12	41 10	38 41	4	61	63		
	19	39 19	21 4 18	36 16	37 33	1 16	61	61		
12 — 13			Noon	54 14	37 18		61	61		
	1	45 29	3 7 31	41 5	37 5	2 5	73	72		
	19	24 34	20 46 51	3 3	36 38	22 8	7	70		
13 — 14			Noon	55 51	36 7		7	7		
	2	13 22	3 56 15	55 54	36 18	1 55	73	70		
	17	37 38	18 59 56	15 19	35 0	3 19	71	69		
14 — 15			Noon	56 39	31 1		71	72		
	2	55 55	4 18 31	1 40	35 27	23 6	73	69		
	13	50 11	20 1 8	22 33	34 19	2 19	69	67		
15 — 16			Noon	56 14	31 49		71	69		
	2	16 27	3 37 41	19 55	34 19	22 9	71	61		
	17	15 23	19 2 38	13 28	31 56	21 8	70	69		
16 — 17			Noon	56 52	35 2		70	70		
	2	16 6	4 3 21	21 41	35 7	21 10	70	69		
	17	47 16		13 1	34 53	0 12	70	61		
17 — 18			Noon	55 11	31 69		71	70		
	21	32 12	22 46 1	1 31	34 1	20 25	67	65		
18 — 19			Noon	55 29	34 51		67	65		
	1	31 38	2 17 2	1 50	34 57	20 8	67	65		
	19	40 28		43 0	31 18		67	65		
19 — 20			Noon	55 43	34 13		66	66		
20 — 21						18 48	79	76		

I carried the watch on shore at the Cape of Good Hope, and compared it with the clock every day from the 24th to 3 April 23, (see p. 132). From these comparisons it appeared that the watch was then gaining 12.204 a day on mean time, that it was too slow for mean time at the Cape on 8 March 1775 at noon by 1 h 14 m 15 s, and gave the longitude of the Cape Town 16 36 40 E of Greenwich, reckoning in the manner which I did in our passage from New Zealand.

1775.	Time by Watch K.		Apparent Time.		Altitude of the ☉.		Latitude S.		Longitude East by K.		Thermom.		No. of Obs.	Remarks.
	H	"	H	"	°	'	°	'	°	'	A.	B.		
24 March 23.	If we reckon all the way from England at its Greenwich rate, it will place the Cape Town $343^{\circ} 15' 47'' \frac{1}{2}$ East of Drake's Island, or $338^{\circ} 59' \frac{1}{2}$ East of Greenwich.													
	It will be found, (p. 14.) that the watch was too slow for mean time at the Cape, on Nov. 14 at noon 1772, by												H	"
	It stopped June 28, 1774,												1 30 50,3	
	Their sum is												2 10 41,0	
	The watch ought to have gained between Nov. 14, 1772, and March 24, 1775, according to the rate it was going at when here last												3 41 31,3	
	Hence it ought to have been too slow, March 24 at noon, by												0 17 12,0	
	I found it actually too slow that day at noon, by												3 24 19,3	
	The difference is												1 14 15,6	
	equal to $32^{\circ} 30' 55'' \frac{1}{2}$ of longitude; the error of the watch in two years and five months nearly.												2 18 3,7	
	The following longitudes of the ship are computed, on supposition that the watch gains as above-mentioned, that it was too slow for mean time at the Cape on 6 April 23 at noon, by 1 h. 7 38", 48, and that the longitude of the Cape Town is $18^{\circ} 23' 15''$ East, as was determined by Messrs. Mafon and Dixon, in the year 1761.													
24 April 27.	18 40 19	19 42 53	12 34	33 4	16 42	63	62	6						
28.	18 39 42	19 32 10	10 55	31 45	14 12	65	64	6						
29.	18 46 3	19 29 4	10 39	30 29	11 51	64	62	5						
30.	19 2 6	19 38 20	12 43	29 21	10 11	63	63	3						
May 1.	4 20 30	4 54 30	6 18	29 1	9 38	67	65	6						
2.	20 15 11	20 44 55	25 32	28 20	8 35	66	65	6						
3.	4 23 44	4 51 33	7 6	28 0	8 7	68	66	5						
4.	18 58 31	19 22 28	10 12	27 12	7 10	68	67	6						
5.	23 49 14	4 9 18	15 54	26 50	6 47	71	68	5						
6.	0 44 39	19 24 53	10 41	26 42	6 41	69	66	6						
7.	3 46 56	4 6 44	16 26	26 25	6 30	70	68	5						
8.	19 2 56	4 30	47 30	26 2		71	67							
9.	3 45 34	4 30	47 30	26 2		71	67							
10.	3 45 34	4 30	47 30	26 2		71	67							

1775	Time by Watch K		Apparent Time	Altitude of the Sun L L	Latitude South	Longitude East by K	Thermom		No. of Obs	Remarks
	H	M	H				A	B		
2 May 5	21	39	55	38 14 ^T	25 8 ^T	5 5	68	65 ⁺	6	Very cloudy Cloudy Ditto
12 --- 6			Noon	48 15	25 0 ^T		68 ⁺	66		
	3	44	19	18 38 ^T	24 45 ⁺	4 40 ⁺	68 ⁺	67	3	
0 --- 7	19	15	47	11 33 ⁺	23 44 ⁺	3 40 ⁺	66 ⁺	65 ⁺	6	
			Noon	49 31 ^T	23 27 ⁺		68	67 ^T		
	4	39	3	4 45 46 ^T	9 25 ^T	3 0 ⁺	68	66 ⁺	5	
1 --- 8	19	7	36 ⁺	19 11 2 ^T	8 59 ^T	2 12 ⁺	66 ⁺	65 ⁺	6	
			Noon	50 37 ^T	22 5		67 ⁺	68		
	3	37	3 ⁺	3 37 57 ⁺	23 43 ⁺	1 35	67	67 ⁺	6	
2 --- 9	10	4	17	20 0 56	9 50 ⁺	0 33	68	67 ⁺	4	
			Noon	51 40	20 46 ⁺		68 ⁺	68 ⁺		
	4	9	35	4 3 50 ^T	19 2 ⁺	0 2 ⁺	68 ⁺	67 ⁺	6	
3 --- 10	19	27	11	19 18 12	11 16	0 48 ⁺	68	67 ⁺	6	
			Noon	52 30 ⁺	19 39 ⁺		69 ⁺	69 ⁺		
	21	9	39	20 56 5 ^T	31 29 ⁺	1 55	69 ⁺	70	6	
4 --- 11			Noon	53 2	18 52 ⁺		72	70 ⁺		
	3	58	13	3 43 4	23 54 ⁺	2 20 ⁺	72 ⁺	70	6	
	19	37	19	19 20 54 ^T	12 9 ^T	2 35	70 ⁺	69 ⁺	6	
5 --- 12			Noon	53 12	18 27 ⁺		72 ⁺	72 ⁺		
	4	33	31 ^T	4 16 16	17 1 ^T	2 46 ⁺	73 ⁺	71	5	
	19	39	37	19 20 56	12 19	3 6 ⁺	71	70 ⁺	5	
6 --- 13			Noon	53 41 ⁺	17 43		73	74		
	4	23	44	4 3 26 ^T	20 1 ⁺	3 29 ⁺	72 ⁺	72 ⁺	6	
	20	10	2	19 47 22 ^T	18 18	4 2 ⁺	70 ⁺	70	6	
0 --- 14			Noon	54 23 ^T	16 46 ^T		73	72 ⁺		
	4	24	31	3 59 53	21 4 ^T	4 31 ⁺	74	72 ⁺	6	
	5	14	27 ^T	4 49 46 ^T	10 22 ⁺	4 31 ⁺	73 ⁺	72 ⁺	6	
1 --- 15	19	41	33	19 14 6 ⁺	11 31 ⁺	4 57 ⁺	72	71	6	
			Noon	54 53 ⁺	16 1 ⁺		73 ⁺	72		
	4	45	2 ^T	4 16 4	17 52 ⁺	5 33	73	72 ⁺	6	
2 --- 16	22	16	58	21 46 56	41 53 ⁺	5 46 ⁺	73 ⁺	73 ⁺	6	
			Noon	54 45 ⁺	15 55 ⁺		73 ⁺	75 ⁺		
	4	52	33 ^T	4 22 29	16 24 ^T	5 46 ⁺	73 ⁺	73	6	
3 --- 17	22	1	29	21 31 16	39 2	5 45 ⁺	72 ⁺	71	5	On board the ship at anchor off James's Fort, St Helena
			Noon	54 32 ⁺	15 55 ⁺		73	73		
	5	5	43	4 35 17 ^T	13 93 ⁺	5 47 ⁺	74	73 ⁺	6	
4 --- 18			Noon	54 19	15 55 ⁺		73	72 ⁺		
0 --- 21	21	17	25	20 43 53 ^T	29 45 ^T	6 15 ⁺	72 ⁺	70	6	
1 --- 22			Noon	54 0 ^T	15 24		70 ⁺	70		
	20	44	55	20 5 30 ^T	22 15 ^T	7 39 ⁺	72 ⁺	72 ⁺	6	Very cloudy Ditto Cloudy Ditto Ditto
	21	45	30	21 5 36	34 19 ^T	7 46 ⁺	73	73 ⁺	8	
			Noon	54 39 ⁺	14 33 ⁺		75	74 ⁺		
5 --- 23	20	7	40 ^T	19 20 33 ^T	13 4 ^T	9 31	73 ⁺	72 ⁺	10	
	10	13	46	19 26 47	14 26 ⁺	9 28 ⁺	73 ⁺	72 ⁺	5	
			Noon	55 31	13 30 ⁺		74 ⁺	73		
6 --- 24	20	31	31	19 38 44	17 42 ⁺	10 51 ⁺	75	72 ⁺	10	

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1775.	Time by	Apparent	Altitude	Latitude S.	Longitude	Thermom.		Remarks.
	Watch K.	Time.	of the ☉ L. L.		West by K.	A.	B.	
	H	H	°	°	°			
May 24.	20 40 25 $\frac{1}{2}$	19 47 46	19 39 $\frac{3}{4}$	12 5 $\frac{1}{2}$	10 49 $\frac{1}{2}$	75	73	
— 25.		Noon.	57 8	11 42 $\frac{1}{2}$		76 $\frac{1}{2}$	75	
	5 25 24	4 31 0	15 53	11 21	11 13	76 $\frac{1}{2}$	75	6
	20 20 50	19 24 4 $\frac{1}{2}$	15 12 $\frac{1}{2}$	10 19	11 45 $\frac{1}{2}$	75 $\frac{1}{2}$	75	6
— 26.		Noon.	58 44 $\frac{3}{4}$	9 55 $\frac{1}{2}$		77 $\frac{1}{2}$	77 $\frac{1}{2}$	
	5 23 10	4 24 52	17 54 $\frac{1}{2}$	9 40 $\frac{1}{2}$	12 7 $\frac{1}{2}$	77 $\frac{1}{2}$	77 $\frac{1}{2}$	6
	19 59 51	18 58 44	10 11 $\frac{1}{2}$	8 38	12 46 $\frac{1}{2}$	77	76 $\frac{1}{2}$	6
— 27.		Noon.	60 7 $\frac{1}{2}$	8 22 $\frac{1}{2}$		78 $\frac{1}{2}$	79	
	5 6 45	4 3 36	23 12 $\frac{1}{2}$	8 11 $\frac{1}{2}$	13 15 $\frac{1}{2}$	78	79	6
	20 11 21	19 5 54 $\frac{1}{2}$	12 4	7 55	13 46 $\frac{1}{2}$	78 $\frac{1}{2}$	77 $\frac{1}{2}$	6
— 28.		Noon.	60 20 $\frac{1}{2}$	7 58 $\frac{1}{2}$		78	78 $\frac{1}{2}$	
	6 7 56	4 59 13	11 25 $\frac{1}{2}$	7 55 $\frac{1}{2}$	14 33 $\frac{1}{2}$			6
	6 10 25	5 1 52	10 18	7 55 $\frac{1}{2}$	14 31 $\frac{1}{2}$	79 $\frac{1}{2}$	78 $\frac{1}{2}$	6
— 29.		Noon.	60 13 $\frac{1}{2}$	7 56 $\frac{1}{2}$	Dip 3 $\frac{1}{2}$	79	79	
— 30.		Noon.	60 5 $\frac{1}{2}$	7 55 $\frac{1}{2}$		79	80 $\frac{1}{2}$	
— 31.		Noon.	59 56	7 56 $\frac{1}{2}$		79 $\frac{1}{2}$	82	
	3 39 31	2 29 59 $\frac{1}{2}$	42 27 $\frac{1}{2}$	7 55 $\frac{1}{2}$	14 30 $\frac{1}{2}$	79	81 $\frac{1}{2}$	6
	5 5 43	3 56 2 $\frac{1}{2}$	24 45 $\frac{1}{2}$	7 55 $\frac{1}{2}$	14 32 $\frac{1}{2}$	79 $\frac{1}{2}$	80 $\frac{1}{2}$	6
	20 25 44 $\frac{1}{2}$	19 13 26	13 56 $\frac{1}{2}$	7 7	15 8 $\frac{1}{2}$	78	77	6
June 1.		Noon.	60 44 $\frac{1}{2}$	6 59 $\frac{1}{2}$		79	79 $\frac{1}{2}$	
	5 0 24 $\frac{1}{2}$	3 45 18	27 30 $\frac{1}{2}$	6 58	15 48 $\frac{1}{2}$	79	79	6
	20 22 0	19 2 5 $\frac{1}{2}$	11 30 $\frac{1}{2}$	6 45 $\frac{1}{2}$	16 56 $\frac{1}{2}$	79 $\frac{1}{2}$	77	5
— 2.		Noon.	60 52 $\frac{1}{2}$	6 43 $\frac{1}{2}$		78 $\frac{1}{2}$	78 $\frac{1}{2}$	
	5 16 9	3 53 8	25 53 $\frac{1}{2}$	6 41 $\frac{1}{2}$	17 41 $\frac{1}{2}$	78 $\frac{1}{2}$	78 $\frac{1}{2}$	6
	20 48 8	19 19 54 $\frac{1}{2}$	15 35 $\frac{1}{2}$	6 29	18 55 $\frac{1}{2}$	78 $\frac{1}{2}$	76	6
— 3.		Noon.	61 1 $\frac{1}{2}$	6 26 $\frac{1}{2}$		79	78	
	4 22 37	2 50 45 $\frac{1}{2}$	39 0 $\frac{1}{2}$	6 25	19 48 $\frac{1}{2}$	79	78 $\frac{1}{2}$	6
	20 44 45	19 7 9 $\frac{1}{2}$	12 52 $\frac{1}{2}$	6 4 $\frac{1}{2}$	21 10 $\frac{1}{2}$	79 $\frac{1}{2}$	77	6
— 4.		Noon.	61 20 $\frac{1}{2}$	6 0 $\frac{1}{2}$		79	79 $\frac{1}{2}$	
	6 39 7	4 57 41 $\frac{1}{2}$	11 49 $\frac{1}{2}$	5 57 $\frac{1}{2}$	22 5 $\frac{1}{2}$	79	79 $\frac{1}{2}$	6
	20 43 1 $\frac{1}{2}$	18 56 38	10 38 $\frac{1}{2}$	5 43 $\frac{1}{2}$	23 16 $\frac{1}{2}$	79 $\frac{1}{2}$	78 $\frac{1}{2}$	6
— 5.		Noon.	61 35 $\frac{1}{2}$	5 39		79 $\frac{1}{2}$	80	
	4 51 35	3 1 42 $\frac{1}{2}$	37 13 $\frac{1}{2}$	5 36 $\frac{1}{2}$	24 6 $\frac{1}{2}$	80	80	6
	20 51 16	18 55 9 $\frac{1}{2}$	10 29 $\frac{1}{2}$	5 14 $\frac{1}{2}$	25 37 $\frac{1}{2}$	80 $\frac{1}{2}$	79 $\frac{1}{2}$	6
— 6.		Noon.	61 59 $\frac{1}{2}$	5 8 $\frac{1}{2}$		81 $\frac{1}{2}$	81 $\frac{1}{2}$	
	6 3 32	4 3 38 $\frac{1}{2}$	24 12 $\frac{1}{2}$	5 4 $\frac{1}{2}$	26 30 $\frac{1}{2}$	80 $\frac{1}{2}$	80 $\frac{1}{2}$	6
	21 1 52	18 57 18	11 2 $\frac{1}{2}$	5 1	27 37	80	79 $\frac{1}{2}$	6
— 7.		Noon.	62 4 $\frac{1}{2}$	4 57 $\frac{1}{2}$		80	81	
	6 26 11	4 19 12	20 58 $\frac{1}{2}$	4 48 $\frac{1}{2}$	28 11	80	81	6
	21 17 38 $\frac{1}{2}$	19 6 2	13 25 $\frac{1}{2}$	3 59	29 16 $\frac{1}{2}$	80	80	6
— 8.		Noon.	63 11 $\frac{1}{2}$	3 44 $\frac{1}{2}$		80 $\frac{1}{2}$	82 $\frac{1}{2}$	
	5 19 13	3 4 34 $\frac{1}{2}$	37 32 $\frac{1}{2}$	3 45 $\frac{1}{2}$	30 0 $\frac{1}{2}$	81	81 $\frac{1}{2}$	10
	21 18 36	18 56 50	11 26 $\frac{1}{2}$	3 43 $\frac{1}{2}$	31 43	80 $\frac{1}{2}$	80 $\frac{1}{2}$	6
— 9.		Noon.	63 8	3 43 $\frac{1}{2}$			82	
								The Island Ferdinando de Noronha S. W. by W. & W.

1775	Time by Watch K.		Apparent Time	Altitude of the Sun L.	Latitude South	Longitude West by K	Thermom		Barom	Remarks	
	H	M					A	B			
June 9	5	9	2	2 43 58	41 38 $\frac{1}{2}$	3 53 $\frac{1}{2}$	32 30 $\frac{1}{2}$	81 $\frac{1}{2}$	81 $\frac{1}{2}$	7	The Spine Rock on Lard narrical Narrows S 12 W at out the point
	6	15	57	3 50 32	27 35 $\frac{1}{2}$	3 52	32 34 $\frac{1}{2}$	81 $\frac{1}{2}$	81 $\frac{1}{2}$	6	
— 10	21	16	45	18 51 52	10 50 $\frac{1}{2}$	2 23	32 23 $\frac{1}{2}$	80	80	6	
			Noon	64 49	1 57			81 $\frac{1}{2}$	82 $\frac{1}{2}$		
	7	9	57	4 45 24	16 19 $\frac{1}{2}$	1 34 $\frac{1}{2}$	32 16 $\frac{1}{2}$	81 $\frac{1}{2}$		6	
— 11	21	35	5	19 10 30	15 47 $\frac{1}{2}$	0 35 $\frac{1}{2}$	32 12 $\frac{1}{2}$	79 $\frac{1}{2}$	79 $\frac{1}{2}$	6	
			Noon	66 30 $\frac{1}{2}$	0 11 $\frac{1}{2}$		Dip 3 $\frac{1}{2}$	80 $\frac{1}{2}$	81		
					North						
	7	0	12	4 35 47	19 13 $\frac{1}{2}$	0 12 $\frac{1}{2}$	32 7 $\frac{1}{2}$	80 $\frac{1}{2}$	81	6	
— 12	21	58	45	19 34 58	22 12 $\frac{1}{2}$	1 30 $\frac{1}{2}$	31 54 $\frac{1}{2}$	80 $\frac{1}{2}$	80	6	
			Noon	68 28 $\frac{1}{2}$	1 50 $\frac{1}{2}$		Dip 3 $\frac{1}{2}$	81	81		
	6	32	37	4 8 48	26 9 $\frac{1}{2}$	2 10 $\frac{1}{2}$	31 52 $\frac{1}{2}$	81 $\frac{1}{2}$		6	
— 13	21	51	50	19 28 30	21 33 $\frac{1}{2}$	3 34 $\frac{1}{2}$	31 41 $\frac{1}{2}$	81	81 $\frac{1}{2}$	6	
			Noon	70 24 $\frac{1}{2}$	3 49 $\frac{1}{2}$			80 $\frac{1}{2}$	81 $\frac{1}{2}$		
— 14	25	6	45	20 42 50	38 42 $\frac{1}{2}$	4 25 $\frac{1}{2}$	31 43 $\frac{1}{2}$	78 $\frac{1}{2}$	79 $\frac{1}{2}$	6	
	7	8	25	4 44 50 $\frac{1}{2}$	18 55	4 36 $\frac{1}{2}$	31 36 $\frac{1}{2}$	80		6	
— 15	23	53	13	21 31 41 $\frac{1}{2}$	49 56 $\frac{1}{2}$	5 32 $\frac{1}{2}$	31 1	78	79	4	Very cloudy
— 16	23	51	54	21 31 45 $\frac{1}{2}$	50 14 $\frac{1}{2}$	6 8	30 33 $\frac{1}{2}$	79	78 $\frac{1}{2}$	6	Ditto
			Noon	72 35 $\frac{1}{2}$	6 9 $\frac{1}{2}$			81 $\frac{1}{2}$			
— 17	6	21	13	4 1 10 $\frac{1}{2}$	29 32 $\frac{1}{2}$	6 10 $\frac{1}{2}$	30 30 $\frac{1}{2}$	81 $\frac{1}{2}$	80 $\frac{1}{2}$	6	
			Noon	72 37 $\frac{1}{2}$	6 19			79 $\frac{1}{2}$	79 $\frac{1}{2}$		
— 18	23	7	43	20 47 18	40 26 $\frac{1}{2}$	6 8	30 17 $\frac{1}{2}$	80 $\frac{1}{2}$	79 $\frac{1}{2}$	6	
			Noon	72 35 $\frac{1}{2}$	6 12 $\frac{1}{2}$		30 25 $\frac{1}{2}$	79 $\frac{1}{2}$	77 $\frac{1}{2}$	6	
	6	21	46	4 0 45 $\frac{1}{2}$	29 31 $\frac{1}{2}$	6 12 $\frac{1}{2}$	30 31 $\frac{1}{2}$	81 $\frac{1}{2}$	80 $\frac{1}{2}$	6	
— 19	21	23	40	18 48 32	16 59	7 0	30 27 $\frac{1}{2}$	80 $\frac{1}{2}$	79 $\frac{1}{2}$	6	
			Noon	73 29 $\frac{1}{2}$	7 8 $\frac{1}{2}$			82 $\frac{1}{2}$	82		
	7	1	32	4 39 38	21 6 $\frac{1}{2}$	7 13	30 38 $\frac{1}{2}$	81	79 $\frac{1}{2}$	6	
— 20	21	17	8	18 53 46 $\frac{1}{2}$	15 17 $\frac{1}{2}$	7 54	30 56 $\frac{1}{2}$	80 $\frac{1}{2}$		6	
	21	32	47	19 9 19	18 51 $\frac{1}{2}$	7 54	30 58 $\frac{1}{2}$	81 $\frac{1}{2}$	80 $\frac{1}{2}$	7	
			Noon	74 31 $\frac{1}{2}$	8 10 $\frac{1}{2}$			81 $\frac{1}{2}$	81		
— 21	7	2	37	4 36 32	22 16 $\frac{1}{2}$	8 25 $\frac{1}{2}$	31 34 $\frac{1}{2}$	81 $\frac{1}{2}$	80 $\frac{1}{2}$	6	
	21	25	46	18 55 20	16 8 $\frac{1}{2}$	9 10 $\frac{1}{2}$	32 36 $\frac{1}{2}$	80	79 $\frac{1}{2}$	10	
			Noon	75 49 $\frac{1}{2}$	9 28 $\frac{1}{2}$			81 $\frac{1}{2}$	83		
— 22	6	15	32	3 42 13	35 10 $\frac{1}{2}$	9 42 $\frac{1}{2}$	33 14 $\frac{1}{2}$	80 $\frac{1}{2}$	81	5	
	21	36	1	19 0 3 $\frac{1}{2}$	17 48 $\frac{1}{2}$	10 49 $\frac{1}{2}$	33 52 $\frac{1}{2}$	79 $\frac{1}{2}$	80	6	
			Noon	77 32 $\frac{1}{2}$	11 12			81	84 $\frac{1}{2}$		
— 23	6	29	48	3 51 28	33 42	11 28 $\frac{1}{2}$	34 25 $\frac{1}{2}$	80	80	6	
	21	59	46	19 18 4	22 32 $\frac{1}{2}$	12 35 $\frac{1}{2}$	35 11 $\frac{1}{2}$	78	78 $\frac{1}{2}$	6	Very cloudy
			Noon	79 14 $\frac{1}{2}$	12 53 $\frac{1}{2}$			79 $\frac{1}{2}$	80		
— 24	6	50	55	4 7 10 $\frac{1}{2}$	30 40 $\frac{1}{2}$	13 4 $\frac{1}{2}$	35 40 $\frac{1}{2}$	79	80	6	Very cloudy
	21	28	33	18 42 4	14 56 $\frac{1}{2}$	14 14 $\frac{1}{2}$	36 17 $\frac{1}{2}$	77 $\frac{1}{2}$	76 $\frac{1}{2}$	6	Cloudy.
			Noon	81 0 $\frac{1}{2}$	14 37 $\frac{1}{2}$			78	78 $\frac{1}{2}$		

1775.	Time by Watch K.		Apparent Time.		Altitude of the ☉'s L. L.		Latitude N.	Longitude West by K.	Thermom.		No of Obs.	Remarks.
	H	M	H	M	°	'			A.	B.		
h June 24.	6	50 54	4	2 53 $\frac{1}{2}$	32	11 $\frac{1}{2}$	14 53	36 35 $\frac{1}{2}$	77 $\frac{1}{2}$	78	6	
o — 25.			Noon.		82	44 $\frac{1}{2}$	16 20 $\frac{1}{2}$		77 $\frac{1}{2}$	82 $\frac{1}{2}$		
	6	29 29	3	36 38 $\frac{1}{2}$	38	45 $\frac{1}{2}$	16 35	37 43 $\frac{1}{2}$	76 $\frac{1}{2}$	79	6	Cloudy.
	22	35 7	19	38 46	28	53 $\frac{1}{2}$	17 39 $\frac{1}{2}$	38 31 $\frac{1}{2}$	77 $\frac{1}{2}$	77 $\frac{1}{2}$	6	
h — 26.			Noon.		84	19 $\frac{1}{2}$	17 53 $\frac{1}{2}$		77 $\frac{1}{2}$	78 $\frac{1}{2}$		
	6	38 27	3	40 28	38	18 $\frac{1}{2}$	18 7 $\frac{1}{2}$	38 54 $\frac{1}{2}$	76	78 $\frac{1}{2}$	6	
	21	23 49	18	23 51	12	35 $\frac{1}{2}$	19 9 $\frac{1}{2}$	39 19 $\frac{1}{2}$	75 $\frac{1}{2}$	75 $\frac{1}{2}$	6	
h — 27.			Noon.		85	59 $\frac{1}{2}$	19 31 $\frac{1}{2}$			78		
	6	55 1	3	53 38 $\frac{1}{2}$	35	45 $\frac{1}{2}$	19 50 $\frac{1}{2}$	39 38 $\frac{1}{2}$	76 $\frac{1}{2}$	77	6	
	21	15 35	18	13 5 $\frac{1}{2}$	10	50	20 51	39 51 $\frac{1}{2}$	77	75	6	
h — 28.			Noon.		87	51 $\frac{1}{2}$	21 20 $\frac{1}{2}$		78 $\frac{1}{2}$	78		
	7	11 2	4	7 9 $\frac{1}{2}$	33	10 $\frac{1}{2}$	21 41 $\frac{1}{2}$	40 9 $\frac{1}{2}$	78 $\frac{1}{2}$	80	4	Cloudy.
	2	46 39 $\frac{1}{2}$	23	41 7	85	28	23 8 $\frac{1}{2}$	40 29 $\frac{1}{2}$	81	78 $\frac{1}{2}$	6	
h — 29.			Noon.		89	43 $\frac{1}{2}$	23 10 $\frac{1}{2}$		78 $\frac{1}{2}$	81		
	3	25 7	0	19 44	85	16 $\frac{1}{2}$	23 11 $\frac{1}{2}$	40 26 $\frac{1}{2}$	81	78 $\frac{1}{2}$	6	
	22	22 43	19	14 43	25	28	24 47	41 1 $\frac{1}{2}$	75 $\frac{1}{2}$	76 $\frac{1}{2}$	6	
h — 30.			Noon.		87	50 $\frac{1}{2}$	25 9 $\frac{1}{2}$	Dip 4 $\frac{1}{2}$	77	80 $\frac{1}{2}$		
	7	6 38 $\frac{1}{2}$	3	57 49 $\frac{1}{2}$	36	5	25 30	41 11	77	80	6	
	21	13 7	18	2 42 $\frac{1}{2}$	10	35 $\frac{1}{2}$	26 34 $\frac{1}{2}$	41 31	75	74 $\frac{1}{2}$	6	
h July 1.			Noon.		85	52	27 4 $\frac{1}{2}$	Dip 4 $\frac{1}{2}$	76	76 $\frac{1}{2}$		
	6	6 19	2	55 29 $\frac{1}{2}$	50	8 $\frac{1}{2}$	27 21 $\frac{1}{2}$	41 35 $\frac{1}{2}$	75 $\frac{1}{2}$	76	10	
	7	17 54	4	7 9 $\frac{1}{2}$	34	21 $\frac{1}{2}$	27 26 $\frac{1}{2}$	41 33 $\frac{1}{2}$	75 $\frac{1}{2}$	76	6	
o — 2.			Noon.		84	10 $\frac{1}{2}$	28 26 $\frac{1}{2}$	41 49 $\frac{1}{2}$	75	74 $\frac{1}{2}$	6	
	5	38 29	2	26 20	56	33 $\frac{1}{2}$	28 53	41 48 $\frac{1}{2}$	77	75 $\frac{1}{2}$	10	
	7	24 9	4	12 12	33	29 $\frac{1}{2}$	28 58	41 45 $\frac{1}{2}$	77 $\frac{1}{2}$	75 $\frac{1}{2}$	6	
	21	55 57	18	44 51	20	17	29 43	41 29 $\frac{1}{2}$	74 $\frac{1}{2}$	74	6	
h — 3.			Noon.		82	47 $\frac{1}{2}$	29 59 $\frac{1}{2}$		76 $\frac{1}{2}$	74		
	6	1 4	2	50 48	51	11 $\frac{1}{2}$	30 8	41 14 $\frac{1}{2}$	76 $\frac{1}{2}$	75	6	
	21	17 8 $\frac{1}{2}$	18	7 41 $\frac{1}{2}$	12	57 $\frac{1}{2}$	30 52 $\frac{1}{2}$	40 58 $\frac{1}{2}$	74	73 $\frac{1}{2}$	3	Cloudy.
h — 4.			Noon.		81	24 $\frac{1}{2}$	31 18 $\frac{1}{2}$		76	75		
	6	30 28	3	21 22 $\frac{1}{2}$	44	36 $\frac{1}{2}$	31 25	40 50 $\frac{1}{2}$			6	
	23	13 39	20	5 13 $\frac{1}{2}$	37	35 $\frac{1}{2}$	32 22 $\frac{1}{2}$	40 36 $\frac{1}{2}$	74	73	6	
h — 5.			Noon.		80	5 $\frac{1}{2}$	32 31 $\frac{1}{2}$		76	75		
	8	28 27	5	20 22 $\frac{1}{2}$	19	52 $\frac{1}{2}$	32 38 $\frac{1}{2}$	40 29 $\frac{1}{2}$	77	76	6	
	23	57 56	20	49 50 $\frac{1}{2}$	46	55 $\frac{1}{2}$	33 5	40 25 $\frac{1}{2}$	75 $\frac{1}{2}$	74 $\frac{1}{2}$	6	
h — 6.			Noon.		79	22 $\frac{1}{2}$	33 8 $\frac{1}{2}$		76 $\frac{1}{2}$	76 $\frac{1}{2}$		
	5	49 18	2	41 32	52	63 $\frac{1}{2}$	33 10	40 19 $\frac{1}{2}$	78 $\frac{1}{2}$	76 $\frac{1}{2}$	6	
	6	15 0	3	7 16	47	31 $\frac{1}{2}$	33 10	40 18 $\frac{1}{2}$	78 $\frac{1}{2}$	76 $\frac{1}{2}$	6	
	22	52 7	19	44 27	33	16	33 25 $\frac{1}{2}$	40 13 $\frac{1}{2}$	76	75	6	
h — 7.			Noon.		78	52 $\frac{1}{2}$	33 32 $\frac{1}{2}$		78	77 $\frac{1}{2}$		
	7	49 39	4	42 33	27	42 $\frac{1}{2}$	33 38 $\frac{1}{2}$	40 3 $\frac{1}{2}$	79 $\frac{1}{2}$		6	
	23	51 15	20	43 49 $\frac{1}{2}$	45	33 $\frac{1}{2}$	34 1 $\frac{1}{2}$	40 4 $\frac{1}{2}$	74 $\frac{1}{2}$	74	6	
h — 8.			Noon.		36	13 $\frac{1}{2}$	34 14 $\frac{1}{2}$	40 11 $\frac{1}{2}$	77	79 $\frac{1}{2}$	10	
	7	9 19	4	1 18 $\frac{1}{2}$	36	49 $\frac{1}{2}$	34 55	40 20	75	75 $\frac{1}{2}$	6	
o — 9.			Noon.		77	8 $\frac{1}{2}$	35 9		76 $\frac{1}{2}$	76 $\frac{1}{2}$		

1775	Time by Watch K		Apparent Time	Altitude of the Sun L L	Latitude North	Longitude West by K	Thermom		Z	Remarks
	H	M					A	B		
O July 9	7	48 17	4 40 38	28 14 $\frac{1}{2}$	35 10	40 0 $\frac{1}{2}$	77 $\frac{1}{2}$	75 $\frac{1}{2}$	5	
D — 10	23	20 18	20 14 25 $\frac{1}{2}$	39 25 $\frac{1}{2}$	35 34 $\frac{1}{2}$	39 30	75	75 $\frac{1}{2}$	6	
			Noon	76 18 $\frac{1}{2}$	35 45 $\frac{1}{2}$					
	7	49 1 $\frac{1}{2}$	4 45 48	27 16	35 58	38 48 $\frac{1}{2}$	77 $\frac{1}{2}$	77	6	
	22	45 52	19 49 56	34 26 $\frac{1}{2}$	36 44	36 55 $\frac{1}{2}$	76	76 $\frac{1}{2}$	6	
			Noon	70 0 $\frac{1}{2}$	36 55 $\frac{1}{2}$		75 $\frac{1}{2}$	6		
	6	57 48	4 6 8	35 11 $\frac{1}{2}$	37 6	35 49 $\frac{1}{2}$	76	76	6	
	22	53 33	20 10 2	38 23 $\frac{1}{2}$	37 58	33 44 $\frac{1}{2}$	74	76	6	
			Noon	73 35 $\frac{1}{2}$	38 12 $\frac{1}{2}$		76 $\frac{1}{2}$	75 $\frac{1}{2}$		
	6	28 4 $\frac{1}{2}$	3 49 24	38 28 $\frac{1}{2}$	38 13	32 29 $\frac{1}{2}$	74 $\frac{1}{2}$	75	6	
	23	53 18	21 22 22	52 17 $\frac{1}{2}$	38 28 $\frac{1}{2}$	30 29 $\frac{1}{2}$	73	74	6	Very hazy
			Noon	73 9 $\frac{1}{2}$	38 29 $\frac{1}{2}$		75	74 $\frac{1}{2}$		
	6	44 32	4 17 5	32 29 $\frac{1}{2}$	38 32	29 36 $\frac{1}{2}$	75 $\frac{1}{2}$	74	6	The island Fayal, East
<p>In the morning I took the Watch and Astronomical Quadrant on shore, at the Villa de Horta, on the island Fayal, and noted the times of equal altitudes of the Sun by the Watch every day, from the 14th to the 18th inclusive from whence it appeared that the Watch was then gaining 13,528 a day on mean time, or 0,324 more than it was gaining at the Cape of Good Hope, and that it was 2 h 20 37$\frac{1}{2}$ to fast for mean time at Fayal on July 18th at noon The rate of its going, found at this place, being so little different from that which was found at the Cape, I continued to compute the longitude of the ship on the same suppositions as I had done before</p>										
	21	48 53	19 23 28	28 42 $\frac{1}{2}$	38 46 $\frac{1}{2}$	28 39 $\frac{1}{2}$	73	72 $\frac{1}{2}$	6	Cloudy The N 10 mi of St George 47 $\frac{1}{2}$ W 2 miles off
	17	19 3	4 58 39	24 25 $\frac{1}{2}$	39 2 $\frac{1}{2}$	27 22 $\frac{1}{2}$	74	74	3	Very cloudy The E end of Terceira 8 13 $\frac{1}{2}$ W 5 leaguers
	21	10 42	18 54 38 $\frac{1}{2}$	23 5 $\frac{1}{2}$	39 9	26 15	71 $\frac{1}{2}$	72	6	
	1	24 35		68 18 $\frac{1}{2}$		OS 8 $\frac{1}{2}$ W at				
	2	30 15		70 58		1st Obs Ship's		76	5	
	3	26 28		65 43 $\frac{1}{2}$	39 13 $\frac{1}{2}$	course E $\frac{1}{2}$ N 2		75 $\frac{1}{2}$	5	
						miles an hour		74 $\frac{1}{2}$	5	
	7	24 2	5 9 58 $\frac{1}{2}$	22 10 $\frac{1}{2}$	39 15 $\frac{1}{2}$	25 42 $\frac{1}{2}$	72 $\frac{1}{2}$	77 $\frac{1}{2}$	6	
	21	35 40	19 25 34	28 56 $\frac{1}{2}$	39 24 $\frac{1}{2}$	24 41 $\frac{1}{2}$	72 $\frac{1}{2}$	70	6	
	5	43 44	3 36 8	40 8 $\frac{1}{2}$	39 26 $\frac{1}{2}$	24 2 $\frac{1}{2}$	72	74	5	
	22	46 12	20 41 56	43 29 $\frac{1}{2}$	39 35 $\frac{1}{2}$	23 9 $\frac{1}{2}$	70	71 $\frac{1}{2}$	5	Very cloudy
			Noon	70 28 $\frac{1}{2}$	39 37 $\frac{1}{2}$		71 $\frac{1}{2}$	74 $\frac{1}{2}$		
	5	3 46	3 1 2 $\frac{1}{2}$	46 39 $\frac{1}{2}$	39 45 $\frac{1}{2}$	22 45 $\frac{1}{2}$	71 $\frac{1}{2}$	73 $\frac{1}{2}$	6	
	21	25 11	19 29 13	29 27 $\frac{1}{2}$	40 32 $\frac{1}{2}$	21 1	70	68	10	
	23	18 1	21 22 38	50 37 $\frac{1}{2}$	40 39	20 52 $\frac{1}{2}$	70 $\frac{1}{2}$	67 $\frac{1}{2}$	10	
			Noon	69 5 $\frac{1}{2}$	40 48 $\frac{1}{2}$		71 $\frac{1}{2}$	69 $\frac{1}{2}$		
	6	6 33	4 13 48	32 38 $\frac{1}{2}$	41 4 $\frac{1}{2}$	20 11 $\frac{1}{2}$	72 $\frac{1}{2}$	72	6	
	21	39 37	19 52 12	33 39 $\frac{1}{2}$	41 52	18 49 $\frac{1}{2}$	67 $\frac{1}{2}$	68	6	

1775.	Time by Watch K.		Apparent Time.	Altitude of the Sun's L. L.	Latitude N.	Longitude Well by K	Thermom.		No. of Obs.	Remarks.
	H	"	H	"	"	"	A.	B.		
d July 24.			Noon.	67 35 $\frac{1}{2}$	42 6 $\frac{1}{2}$		70	69 $\frac{1}{2}$		A bad horizon.
	5 30	14	3 45 8	37 45 $\frac{1}{2}$	42 18	18 13 $\frac{1}{2}$	70	70	6	
	21 27	36	19 46 40	32 25 $\frac{1}{2}$	43 22	17 8 $\frac{1}{2}$	68	65 $\frac{1}{2}$	6	
b ——— 25.			Noon.	65 48 $\frac{1}{2}$	43 40 $\frac{1}{2}$		69 $\frac{1}{2}$	67		
	5 33	17	3 55 19	35 34 $\frac{1}{2}$	43 57 $\frac{1}{2}$	16 22 $\frac{1}{2}$	70	68	6	
	22 16	35	20 44 48	42 11 $\frac{1}{2}$	45 17	14 47 $\frac{1}{2}$	64 $\frac{1}{2}$	63 $\frac{1}{2}$	6	
h ——— 26.			Noon.	63 40 $\frac{1}{2}$	45 36		66	64		
	5 2	37	3 34 29 $\frac{1}{2}$	38 44 $\frac{1}{2}$	45 53	13 51 $\frac{1}{2}$	67	63 $\frac{1}{2}$	6	
	21 19	24	19 59 4	33 55 $\frac{1}{2}$	47 1	11 52 $\frac{1}{2}$	64	62 $\frac{1}{2}$	6	
4 ——— 27.			Noon.	61 46 $\frac{1}{2}$	47 16 $\frac{1}{2}$		67	64 $\frac{1}{2}$		
	4 49	49	3 2 54	38 28 $\frac{1}{2}$	47 27	11 0 $\frac{1}{2}$	69 $\frac{1}{2}$		6	
	21 41	39	20 30 56	38 50 $\frac{1}{2}$	47 59 $\frac{1}{2}$	9 26 $\frac{1}{2}$	65	62 $\frac{1}{2}$	6	
2 ——— 28.			Noon.	60 39 $\frac{1}{2}$	48 9 $\frac{1}{2}$		67	64 $\frac{1}{2}$		
	5 50	58 $\frac{1}{2}$	4 44 50	26 16 $\frac{1}{2}$	48 24	8 15 $\frac{1}{2}$	69 $\frac{1}{2}$	65	6	
	21 2	48	20 6 27	34 26 $\frac{1}{2}$	49 17 $\frac{1}{2}$	5 46 $\frac{1}{2}$	65 $\frac{1}{2}$	62 $\frac{1}{2}$	6	
b ——— 29.			Noon.	58 57 $\frac{1}{2}$	49 37 $\frac{1}{2}$		67 $\frac{1}{2}$	62 $\frac{1}{2}$		
	4 9	55	3 18 4	39 45	49 54 $\frac{1}{2}$	4 38 $\frac{1}{2}$	69	64	6	

A little before noon on the 30th we anchored at Spithead, and soon after I carried the Watch on shore, in company with Captain Cook and Lieutenant Cooper, to the Observatory belonging to the Royal Academy at Portsmouth, where I transcribed the following Observations of the Sun's transit over the meridian from their books, viz.

	First Wire.	Second Wire.	Middle Wire.		Fourth Wire.	Fifth Wire.	
	"	"	H	"	"	"	
d July 25.		15 8 $\frac{1}{2}$	8 16 9 $\frac{1}{2}$				☉'s 1st Limb.
			18 23		19 23 $\frac{1}{2}$		☉'s 2d Limb.
h ——— 26.	18 5	19 5 $\frac{1}{2}$	8 20 5 $\frac{1}{2}$		23 19 $\frac{1}{2}$	24 19 $\frac{1}{2}$	☉'s 1st Limb.
			22 19 $\frac{1}{2}$				☉'s 2d Limb.
4 ——— 27.		23 0	8 24 0 $\frac{1}{2}$		27 14 $\frac{1}{2}$		☉'s 1st Limb.
			16 14 $\frac{1}{2}$				☉'s 2d Limb.

We then compared the Watch with the Clock as follows :

Time by the Clock.	Time by Watch K.	
H	H	
10 5 0	2 6 56 $\frac{1}{2}$	By W. Wales. By Mr. Witchell. By Capt. Cook.
6 0	7 56	
7 0	8 55 $\frac{1}{2}$	

1775

Mr Witchell, Head Master of the Royal Academy at Portsmouth, has since favoured me with the following Observations

	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	
	"	"	H "	"	"	
2 July 31	37 37 $\frac{1}{2}$	38 37 $\frac{1}{2}$	8 39 37 $\frac{1}{2}$			0 s 1st Lmb
			41 50 $\frac{1}{2}$	42 50 $\frac{1}{2}$	43 50 $\frac{1}{2}$	0 s 2d Lmb
8 Aug 1	41 31	42 30 $\frac{1}{2}$	8 43 30 $\frac{1}{2}$			0 s 1st Lmb
			45 43 $\frac{1}{2}$	46 42 $\frac{1}{2}$	47 42 $\frac{1}{2}$	0 s 2d Lmb

Hence it appears, that the Watch was too fast for mean time, at Portsmouth, by 0 h 33 1 $\frac{1}{2}$, and of course it gave the longitude of Portsmouth 1 2 56 West of Greenwich, according to the mode of reckoning I have followed since leaving the Cape of Good Hope. The true longitude of the Observatory at Portsmouth is 1° 6' 15" West, and therefore the error of the Watch in our run from the Cape is 0° 16' 41". If we suppose it to have gone all the voyage at the rate it went at Greenwich before its setting out, it will place Portsmouth 316° 10' 18", East of Drake's Island, instead of 360° + 3 9' 52", consequently the total error of the Watch in the whole voyage or three years and twenty days, is 16 59 34". Moreover, seeing that the Watch was too fast for mean time as above if we allow it to have gained 13", 528 each day since leaving Laysal, as it was found to do there, the difference of longitude between that place and Portsmouth will be 27° 34' 35"; that is, 28° 41' 5" between Fayal and Greenwich; Laysal being so much to the West.

On Monday I brought the Watch up to London with me in a post chaise; and on Tuesday, August 1, carried it down to Greenwich in a coach, and delivered it to the Rev Mr Maskelyne, his Majesty's Astronomer Royal. On comparing it with the Transit Clock there, we found that the Watch shewed 0 h 56, when the Transit Clock shewed 9 h 3 24. The Sun's transit that day was at 8 h 42 18 36 from whence it appears that the mean time of comparing the Watch was 0 h 26 55", 6, and of course that the Watch was too fast for mean time at Greenwich by 0 h 29 4", 4; and therefore allowing its Fayal rate, it makes the difference of Longitude between Portsmouth and Greenwich 4 23" 85 in time, or 1 5 51.

The Rev Mr Maskelyne found that this Watch lost at the rate of 0 $\frac{1}{2}$ " a day on mean time between March 24th and April 25th 1772, before it went on the voyage; and that it gained at the rate of 13", 0 a day from August 1st to September 1st 1775, after its return.

From the preceding account it appears to what an amazing degree of accuracy the ingenious Inventor of this Watch had brought this branch of mechanics so long ago as the year 1762, or 3; and at the same time what room is yet left for future improvements by other Artists but let no man boast that he has excelled him, until his machines have undergone as rigorous a trial as this has done.

Comparisons of the Time-keepers with each other.

Comparisons of Mr. Arnold's Watches, Nos. 1 and 2 with each other.

1772.	Time by Watch No. 1.			Time by Watch No. 2.			1772.	Time by Watch No. 1.			Time by Watch No. 2.		
	H	"		H	"			H	"		H	"	
♀ July 10.	Both Watches were set 12" too slow for mean time.						♂ Aug. 18.	1	46	0	2	39	34
h ——— 11.	No. 2 stopped.						♂ ——— 19.	1	53	0	2	46	40
○ ——— 12.	0	30	0	1	23	45	h ——— 20.	1	24	0	2	17	49
h ——— 13.	0	29	4	1	23	0	♀ ——— 21.	2	7	0	3	0	54
♂ ——— 14.	0	43	0	1	37	0 $\frac{1}{2}$	h ——— 22.	1	33	0	2	27	4
h ——— 15.	0	34	48	1	29	0	○ ——— 23.	1	10	0	2	4	14
h ——— 16.	0	32	43	1	27	0	h ——— 24.	1	16	0	2	10	22
♀ ——— 17.	1	1	39 $\frac{1}{2}$	1	56	0	♂ ——— 25.	1	8	0	2	2	25
h ——— 18.	0	55	37 $\frac{1}{2}$	1	50	0	h ——— 26.	0	59	0	1	53	31
○ ——— 19.	0	56	43 $\frac{1}{2}$	1	51	0	h ——— 27.	1	0	0	1	54	41
h ——— 20.	0	51	48 $\frac{1}{2}$	1	46	0	♀ ——— 28.	1	6	0	2	0	49
♂ ——— 21.	1	10	47 $\frac{1}{2}$	2	5	0	h ——— 29.	0	36	0	1	30	58
h ——— 22.	1	14	51 $\frac{1}{2}$	2	9	0	○ ——— 30.	0	42	0	1	37	10
h ——— 23.	1	14	53	2	9	0	h ——— 31.	0	50	0	1	45	19
♀ ——— 24.	1	14	51	2	9	0	♂ Sept. 1.	0	21	0	1	16	20
h ——— 25.	1	17	50	2	12	0	h ——— 2.	0	45	0	1	40	26
○ ——— 26.	1	21	48	2	16	0	h ——— 3.	0	53	0	1	48	29
♂ ——— 27.	1	9	47	2	4	0	♀ ——— 4.	0	31	0	1	26	34
h ——— 28.	1	57	46 $\frac{1}{2}$	2	52	0	h ——— 5.	0	37	0	1	32	50
h ——— 29.	0	47	46 $\frac{1}{2}$	1	42	0	○ ——— 6.	0	38	0	1	34	13
h ——— 30.	1	26	0	0	20	16	h ——— 7.	0	27	0	1	23	29
♀ ——— 31.	0	59	0	1	53	12 $\frac{1}{2}$	♂ ——— 8.	0	28	0	1	24	36
h Aug. 1.	0	37	0	1	31	7	h ——— 9.	1	1	0	1	57	42
○ ——— 2.	1	36	0	2	29	59 $\frac{1}{2}$	h ——— 10.	0	43	0	1	39	49
h ——— 3.	1	29	0	2	22	55 $\frac{1}{2}$	♀ ——— 11.	0	53	0	1	49	51
♂ ——— 4.	1	34	0	2	27	55 $\frac{1}{2}$	h ——— 12.	1	10	0	2	7	2
h ——— 5.	1	31	0	2	24	54 $\frac{1}{2}$	○ ——— 13.	0	59	0	1	55	57
h ——— 6.	1	53	0	2	46	55	h ——— 14.	0	43	0	1	40	22
♀ ——— 7.	1	32	0	2	25	55	♂ ——— 15.	1	21	0	2	18	31
h ——— 8.	1	31	0	2	24	56	h ——— 16.	1	0	0	1	57	45
○ ——— 9.	1	44	0	2	37	50	h ——— 17.	1	9	0	2	7	4
h ——— 10.	1	47	0	2	40	48	♀ ——— 18.	1	7	0	2	5	5
♂ ——— 11.	2	9	0	3	2	48 $\frac{1}{2}$	h ——— 19.	0	56	0	1	54	16
h ——— 12.	1	41	0	2	34	46 $\frac{1}{2}$	○ ——— 20.	1	30	0	2	28	17
h ——— 13.	1	44	0	2	37	37 $\frac{1}{2}$	h ——— 21.	1	26	0	2	24	17
♀ ——— 14.	2	8	0	3	1	30	♂ ——— 22.	1	8	0	2	6	19
h ——— 15.	2	5	0	2	58	29 $\frac{1}{2}$	h ——— 23.	1	27	0	2	25	55
○ ——— 16.	2	5	0	2	58	29	h ——— 24.	1	11	0	2	9	35
h ——— 17.	2	54	0	3	47	34	♀ ——— 25.	1	34	0	2	31	21
							h ——— 26.	1	23	0	2	20	27

Comparisons of Mr Arnold's Watches Nos 1 and 2 with each other

1772	Time by Watch No 1	Time by Watch N 2	1772	Time by Watch N 1	Time by Watch N 2
	H	H		H	H
Sept 27	0 12 0	1 7 45	Oct 15	23 41 0	16 22 45
28	1 9 0	2 4 55	16	23 58 0	16 40 10 ¹
29	1 17 0	2 13 1	17	23 13 0	15 31 12
30	1 4 0	2 0 14	18	23 12 0	15 16 26
Oct 1	1 1 0	1 57 21 ¹ / ₂	19	23 2 0	14 47 27
2	0 41 0	1 36 46 ¹ / ₂	20	23 6 0	13 43 41 ¹ / ₂
3	0 41 0	1 36 33	21	22 58 0	13 36 10
4	0 42 0	1 37 22	22	23 10 0	9 5 5
5	0 22 0	0 29 34	23	23 6 0	4 48 29
6	0 27 0	23 32 55	24	22 52 0	4 20 11
7	0 25 0	22 17 31	25	22 38 0	4 5 39
8	0 14 0	21 47 5	26	22 28 0	3 15 5
9	0 47 0	22 17 1	27	22 31 0	3 15 5 ¹ / ₂
10	0 14 0	21 47 5	28	22 26 0	2 35 11 ¹ / ₂
11	0 7 0	20 54 3	29	22 7 0	1 16 37 ¹ / ₂
12	0 11 0	20 22 28	30	22 26 0	1 36 9
13	23 55 0	19 57 0	31	22 24 0	1 31 45
14	23 41 0	17 18 2	Nov 1	22 26 0	1 37 16

Comparisons of the Watch K, with Mr Arnold's No 3

1772	Time by A, No 3	Time by Watch K	1772	Time by A, N 3	Time by Watch K
	H	H		H	H
July 10	The Watch K was set 0 ^h 7 ^m too fast, and the Watch A, N 3, too slow by 10 ^m ¹ / ₂ for mean time		July 23	0 31 0	0 39 57 ¹ / ₂
11	0 7 16	0 8 0	24	0 42 0	0 51 44 ¹ / ₂
12	0 57 36	0 59 0	25	0 52 0	1 2 33 ¹ / ₂
13	0 5 2 ¹ / ₂	0 7 0	26	0 51 0	1 2 22
14	0 6 21	0 9 0	27	0 46 0	0 58 16 ¹ / ₂
15	0 20 45	0 24 0	28	1 3 0	1 16 10
16	0 31 3 ¹ / ₂	0 35 0	29	1 10 0	1 24 5
17	0 22 25 ¹ / ₂	0 27 0	30	1 59 0	2 14 2
18	0 18 44 ¹ / ₂	0 24 0	31	11 25 0	11 40 54
19	0 34 3	0 40 0	Aug 2	0 47 0	1 5 1
20	0 28 0	0 34 10	3	0 59 0	1 18 14 ¹ / ₂
21	0 28 0	0 35 24 ¹ / ₂	4	0 54 0	1 14 32 ¹ / ₂
22	0 30 0	0 38 11 ¹ / ₂	5	1 22 0	1 43 53 ¹ / ₂
			6	1 6 0	1 29 13 ¹ / ₂
			7	0 54 0	1 18 35
			8	0 58 0	1 24 0 ¹ / ₂

Comparisons of the Watch K. with Mrn Arnold's No. 3.

1772.	Time by A, No. 3.			Time by Watch K.			1772.	Time by A, No. 3.			Time by Watch K.		
	H	'	"	H	'	"		H	'	"	H	'	"
○ Aug. 9.	0	56	0	1	23	24½	♂ Sept. 22.	23	45	0	1	14	23
♂ — 10.	0	58	0	1	26	50½	♂ — 23.	23	49	0	1	19	49
♂ — 11.	1	1	0	1	31	15	♂ — 24.	23	49	0	1	21	16
♂ — 12.	1	4	0	1	35	41	♀ — 25.	23	56	0	1	29	44
♂ — 13.	2	2	0	2	35	13	♂ — 26.	23	48	0	1	23	10
♀ — 14.	1	2	0	1	36	38½	○ — 27.	23	41	0	1	17	25½
♂ — 15.	1	15	0	1	51	7½	♂ — 28.	23	46	0	1	23	40½
○ — 16.	1	0	0	1	37	35	♂ — 29.	23	31	0	1	9	54½
♂ — 17.	0	47	0	1	26	3½	♂ — 30.	23	32	0	1	12	21
♂ — 18.	0	43	0	1	23	29	♂ Oct. 1.	23	17	0	0	58	50
♂ — 19.	1	11	0	1	52	49½	♀ — 2.	23	18	0	1	1	1
♂ — 20.	1	23	0	2	6	6	♂ — 3.	23	1	0	0	45	22½
♀ — 21.	0	35	0	1	19	18½	○ — 4.	22	50	0	0	35	41
♂ — 22.	0	22	0	1	7	35½	♂ — 5.	22	41	0	0	27	55
○ — 23.	0	18	0	1	4	50½	♂ — 6.	22	44	0	0	32	9½
♂ — 24.	0	8	0	0	56	8½	♂ — 7.	22	45	0	0	34	20½
♂ — 25.	0	7	0	0	56	26½	♂ — 8.	22	43	0	0	33	40
♂ — 26.	23	55	0	0	45	43	♀ — 9.	22	43	0	0	35	10½
♂ — 27.	23	54	0	0	46	0½	♂ — 10.	22	26	0	0	19	33
♀ — 28.	23	45	0	0	38	16	○ — 11.	22	29	0	0	23	44½
♂ — 29.	23	37	0	0	31	36	♂ — 12.	22	18	0	0	13	53
○ — 30.	23	37	0	0	33	0½	♂ — 13.	22	6	0	0	3	6
♂ — 31.	23	20	0	0	17	20½	♂ — 14.	22	2	0	0	0	20
♂ Sept. 1.	23	22	0	0	20	48	♂ — 15.	21	53	0	23	52	34½
♂ — 2.	23	21	0	0	21	5½	♀ — 16.	21	37	0	23	37	48
♂ — 3.	23	27	0	0	28	19½	♂ — 17.	21	21	0	23	22	59½
♀ — 4.	23	28	0	0	30	28	○ — 18.	21	21	0	23	24	7½
♂ — 5.	23	37	0	0	40	34	♂ — 19.	21	4	0	23	8	15½
○ — 6.	23	26	0	0	30	48½	♂ — 20.	21	4	0	23	9	27½
♂ — 7.	23	18	0	0	24	7½	♂ — 21.	21	4	0	23	10	38
♂ — 8.	23	30	0	0	37	46	♂ — 22.	21	0	0	23	7	47
♂ — 9.	23	21	0	0	30	24	♀ — 23.	20	58	0	23	7	0
♂ — 10.	23	23	0	0	33	49½	♂ — 24.	20	42	0	22	52	23½
♀ — 11.	23	36	0	0	48	28½	○ — 25.	20	32	0	22	43	47
♂ — 12.	23	26	0	0	40	13½	♂ — 26.	20	29	0	22	42	9½
○ — 13.	23	35	0	0	50	58½	♂ — 27.	20	24	0	22	38	29½
♂ — 14.	23	36	0	0	53	29½	♂ — 28.	20	20	0	22	35	56½
♂ — 15.	23	42	0	1	1	20	♂ — 29.	20	19	0	22	36	26
♂ — 16.	23	48	0	1	9	9	♀ — 30.	20	9	0	22	28	2½
♂ — 17.	23	40	0	1	2	40	♂ — 31.	20	13	0	22	33	28½
♀ — 18.	23	53	0	1	17	4½	○ Nov. 1.	20	20	0	22	41	59
♂ — 19.	23	38	0	1	3	34½	♂ — 2.	19	49	0	22	12	21½
○ — 20.	23	42	0	1	9	12½	♂ — 16.	20	38	0	23	23	5½
♂ — 21.	23	48	0	1	16	21½	♂ — 18.	22	36	0	22	35	1½

Comparisons of the Watches with each other

1772		Time by A, N 3		Time by Watch K		1773		Time by A, N 3		Time by Watch K	
		H		H				H		H	
u	Nov 19	23	12 0	23	12 32 _r	♀	Jan 1	22	20 0	23	17 18 ₊
♀	20	23	12 0	23	13 55 _r	h	2	22	18 0	23	16 52
h	21	21	3 0	21	5 55 ₊	o	3	22	34 0	23	34 28 ₊
o	22	22	18 0	22	22 11 _r	u	4	22	21 0	23	23 0
u	23	22	25 0	22	30 20	♂	5	22	0 0	23	3 27 ₊
♂	24	22	27 0	22	33 29 ₊	♀	6	21	46 0	22	50 53
♀	25	22	33 0	22	40 42 _r	u	7	21	7 0	22	13 21 ₊
u	26	22	46 0	22	54 55 _r	♀	8	21	4 0	22	11 51 ₊
♀	27	22	31 0	22	41 6 _r	h	9	21	0 0	22	9 26
h	28	22	31 0	22	42 18	o	10	20	50 0	22	1 2 ₊
o	29	22	46 0	22	58 29	u	11	20	31 0	21	43 36 ₊
u	30	23	14 0	23	27 48 ₊	♂	12	20	19 0	21	33 12 ₊
♂	Dec 1	22	53 0	23	8 2 ₊	♀	13	20	21 0	21	36 50
♀	2	22	29 0	22	45 16 ₊	u	14	20	16 0	21	33 34 ₊
u	3	22	27 0	22	44 31	♀	15	20	11 0	21	30 18
♀	4	22	15 0	22	33 44	h	16	20	10 0	21	31 2
h	5	22	21 0	22	40 56 _r	o	17	20	14 0	21	36 42 ₊
o	6	22	33 0	22	54 0 ₊	u	18	20	11 0	21	35 16 ₊
u	7	22	26 0	22	48 8 _r	♂	19	20	18 0	21	43 51 ₊
♂	8	22	42 0	23	5 37	♀	20	20	8 0	21	35 25
♀	9	22	23 0	22	48 2	u	21	20	10 0	21	39 0 ₊
u	10	22	6 0	22	32 27 ₊	♀	22	20	0 0	21	30 33
♀	11	22	4 0	22	31 54	h	23	20	1 0	21	33 8 ₊
h	12	22	19 0	22	48 22	o	24	19	22 0	20	55 34 ₊
o	13	22	14 0	22	44 42	u	25	19	23 0	20	58 12 _r
u	14	22	8 0	22	39 57 ₊	♂	26	19	16 0	20	52 46
♂	15	21	57 0	22	30 15	♀	27	19	14 0	20	52 22 ₊
♀	16	22	3 0	22	37 39 ₊	u	28	19	24 0	21	4 1
u	17	21	49 0	22	25 3 ₊	♀	29	18	58 0	20	39 39 ₊
♀	18	21	45 0	22	22 27 ₊	h	30	19	5 0	20	48 18 ₊
h	19	21	40 0	22	18 48 ₊	o	31	19	0 0	20	44 58 ₊
o	20	21	32 0	22	12 14	u	Feb 1	18	43 0	20	29 37
u	21	21	28 0	22	9 38	♂	2	18	35 0	20	23 15 ₊
♂	22	21	13 0	21	56 1 ₊	♀	3	18	31 0	20	20 59
♀	23	21	1 0	21	45 24 ₊	u	4	18	26 0	20	17 45
u	24	21	11 0	21	56 47 ₊	♀	5	18	27 0	20	20 28
♀	25	21	21 0	22	8 12 ₊	h	6	18	36 0	20	30 58 ₊
h	26	21	24 0	22	12 36	o	7	18	15 0	20	11 29 ₊
o	27	21	37 0	22	27 2	u	8	18	7 0	20	5 6 ₊
u	28	21	47 0	22	38 28 ₊	♂	9	18	16 0	20	15 51 _r
♂	29	21	55 0	22	47 56	♀	10	17	55 0	19	56 30 _r
♀	30	22	0 0	22	54 21 ₊	u	11	17	37 0	19	40 7
u	31	22	8 0	23	3 51	♀	12	17	37 0	19	41 45 ₊
						h	13	17	16 0	19	22 23 ₊

Comparisons of the Watches with each other

1773	Time by A, N ^o 3			1773	Time by A, N ^o 3		
	H	'	"		H	'	"
○ Feb 14	17	5	0	8 March 30	10	25	0
● — 15	17	14	0	8 — 31	9	31	0
8 — 16	16	57	0	24 April 1	10	32	0
8 — 17	17	29	0	8 — 2	9	51	0
24 — 18	16	27	0	8 — 3	9	41	0
8 — 19	15	59	0	○ — 4	9	33	0
8 — 20	15	52	0	8 — 5	10	16	0
○ — 21	15	45	0	8 — 6	9	35	57½
8 — 22	15	29	0	8 — 7	9	41	13½
8 — 23	15	31	0	24 — 8	9	27	33½
8 — 24	15	19	0	8 — 9	9	33	45½
24 — 25	15	21	0	8 — 10	9	20	7
8 — 26	15	7	0	○ — 11	9	21	18½
8 — 27	15	3	0	8 — 12	9	31	36½
○ — 28	14	38	0	8 — 13	9	44	46½
8 March 1	14	28	0	8 — 14	9	3	17
8 — 2	14	35	0	24 — 15	9	34	32½
8 — 3	14	26	0	8 — 16	9	12	56
24 — 4	14	4	0	8 — 17	9	2	17
8 — 5	13	55	0	○ — 18	9	25	33½
8 — 6	13	39	0	8 — 19	8	53	9
○ — 7	13	25	0	8 — 20	9	19	18
8 — 8	13	22	0	8 — 21	9	0	49½
8 — 9	13	19	0	24 — 22	9	2	0
8 — 10	12	54	0	8 — 23	9	47	0
24 — 11	12	51	0	8 — 24	8	58	0
8 — 12	12	36	0	○ — 25	8	37	0
8 — 13	12	28	0	8 — 26	9	58	0
○ — 14	12	17	0	8 — 27	8	45	0
8 — 15	11	57	0	8 — 28	10	5	0
8 — 16	11	40	0	24 — 29	8	57	0
8 — 17	11	40	0	8 — 30	8	39	0
24 — 18	11	14	0	8 May 1	10	48	0
8 — 19	11	11	0	○ — 2	8	26	0
8 — 20	10	56	0	8 — 3	5	15	0
○ — 21	10	42	0	8 — 4	6	52	0
8 — 22	10	35	0	8 — 5	8	18	0
8 — 23	10	21	0	24 — 6	8	46	0
8 — 24	10	0	0	8 — 7	8	23	0
24 — 25	10	9	0	8 — 8	8	27	0
8 — 26	10	54	0	○ — 9	8	38	0
8 — 27	10	30	0	8 — 10	8	22	0
○ — 28	9	39	0	8 — 11	8	45	0
8 — 29	12	14	0	8 — 12	8	27	0

Comparisons of the Watches with each other

1773	Time by A, N 3			Time by Watch K			1773	Time by A, N 3			Time by Watch K		
	H	M	S	H	M	S		H	M	S	H	M	S
4 May 13	8	21	0	12	58	0	4 May 26	7	27	0	12	26	37½
2 May 14	8	14	0	12	52	39	4 May 27	8	18	0	13	19	26½
6 May 15	8	8	0	12	48	12½	2 May 28	7	48	0	12	50	55
10 May 16	7	58	0	12	39	57	6 May 29	7	30	0	12	34	34
14 May 17	7	51	0	12	34	39½	10 May 30	9	57	0	15	3	10½
18 May 18	7	44	0	12	29	15	14 May 31	7	19	0	12	26	48½
22 May 19	8	35	0	13	21	56	18 May 1	9	22	0	14	31	37
26 May 20	8	48	0	13	36	37½	22 May 2	8	43	0	13	54	6½
30 May 21	8	14	0	13	4	26½	26 May 3	7	32	0	12	45	6½
3 June 22	7	15	0	12	7	16½	30 May 4	7	58	0	13	13	6½
4 June 23	7	18	0	12	12	12½	3 June 5	8	7	0	13	24	5½
8 June 24	8	50	0	13	46	8½	6 June 6	7	7	0	12	25	48
12 June 25	7	29	0	12	26	55½	10 June 7	7	24	0	12	44	43½

Comparisons of the Watch K with Mr Arnold's Watch No 1

1772		Time by Watch K	Time by Watch N ^o 1	1773		Time by Watch K	Time by Watch N ^o 1
		H ' "	H ' "			H ' "	H ' "
♂	July 21	5 29 43 _r	5 29 0	♀	Jan 8	19 52 0	19 7 10
♂	Aug 12	5 6 0	5 4 21	♂	May 20	16 26 28 _‡	14 38 0
○	— 30.	6 19 57	6 17 0	♂	June 22	9 8 0	7 0 33 _‡
○	Sept 13	22 21 13 _‡	22 16 0	♂	July 6	7 56 58 _‡	5 41 0
♂	— 26	23 1 47	22 54 0	♂	— 28	7 38 34 _r	7 5 0
♂	Oct 12	3 0 0	2 49 24 _r	♂	Aug 5	8 6 51	5 28 0
♂	— 19	21 30 0	21 17 9 _‡	♂	— 14	8 47 11 _‡	6 0 0
♂	Dec 14	20 41 50 _r	20 9 0	♂	— 19	5 36 47	2 45 0
♂	— 22	19 51 38 _‡	19 15 0	♂	Oct 4	8 38 52	5 4 0

O B S E R V A T I O N S
O F T H E

MOON's Distance from the SUN and Fixed STARS,

F O R

Determining the LONGITUDE at SEA,

Made on Board his MAJESTY's Sloop RESOLUTION,

In her late Voyage on Discoveries towards the South.

1772.	Time by Watch K.	Altitude of the ☉'s L. or *.	Moon's Altitude.	Distance of the ☉'s L. from ☉'s or *.	Latitude of the Ship N.	Longitude West of Greenwich.	Thermom.	No. of Obs.	Objects.
	H	°	°	°	°	°			
♂ July 21.	19 57 50	29 51	45 30 U.	95 21 30	43 41 $\frac{1}{2}$	9 59 $\frac{1}{2}$		2	☉ and ☉: Cloudy.
	21 50 4 $\frac{1}{2}$	49 47	28 4 $\frac{1}{2}$ U.	94 42 36	43 40	9 40 $\frac{1}{2}$		5	☉ and ☉.
	22 18 11 $\frac{1}{2}$	54 25 $\frac{1}{2}$	23 7 U.	94 32 50	43 38 $\frac{1}{2}$	9 42 $\frac{1}{2}$		3	☉ and ☉.
♂ — 22.	18 59 48	18 44 $\frac{1}{2}$	59 4 U.	84 35 0	42 41 $\frac{1}{2}$	10 9 $\frac{1}{2}$		3	☉ and ☉.
	19 5 34	19 46 $\frac{1}{2}$	58 56 $\frac{1}{2}$ U.	84 33 50	42 41 $\frac{1}{2}$	9 57 $\frac{1}{2}$		3	☉ and ☉.
♂ — 23.	19 17 13 $\frac{1}{2}$	20 25 $\frac{1}{2}$	64 41 $\frac{1}{2}$ U.	73 13 54	40 32	11 24 $\frac{1}{2}$	65 $\frac{1}{2}$	5	☉ and ☉.
♂ Aug. 4.	3 56 50 $\frac{1}{2}$	48 16 $\frac{1}{2}$	44 40 $\frac{1}{2}$ U.	72 35 40	28 28 $\frac{1}{2}$	17 36 $\frac{1}{2}$	76 $\frac{1}{2}$	6	☉ and ☉: Very hazy.
♂ — 5.	4 12 31	45 4	36 45 U.	85 59 0	27 38 $\frac{1}{2}$	18 55 $\frac{1}{2}$	77 $\frac{1}{2}$	3	☉ and ☉.
♂ — 7.	Evening.	9 22 $\frac{1}{2}$	42 22 $\frac{1}{2}$ U.	112 48 35	23 34 $\frac{1}{2}$	19 50		3	☉ and ☉.
♂ — 18.	20 10 45 $\frac{1}{2}$	16 56 $\frac{1}{2}$	47 5 U.	114 1 47	10 50	19 16 $\frac{1}{2}$	80	7	☉ and ☉.
♂ — 22.	20 6 50 $\frac{1}{2}$	19 18 $\frac{1}{2}$	77 43 $\frac{1}{2}$ L.	68 32 30	6 57 $\frac{1}{2}$	16 41 $\frac{1}{2}$	80	5	☉ and ☉.
♂ — 23.	20 28 18	25 48	76 11 L.	56 16 45	6 29	14 54	78	1	☉ and ☉.
	20 50 45	31 21 $\frac{1}{2}$	77 35 $\frac{1}{2}$ L.	56 10 52	6 29	14 59	78	4	☉ and ☉.
♂ Sept. 4.	2 36 11	54 42 $\frac{1}{2}$	29 52 $\frac{1}{2}$ U.	94 26 42	0 49	9 45 $\frac{1}{2}$		6	☉ and ☉.
	3 16 46	44 48	38 54	94 42 30	0 49	9 45 $\frac{1}{2}$		6	☉ and ☉.
♂ — 5.	3 9 36	46 33	25 17 $\frac{1}{2}$ U.	107 5 24	0 54 $\frac{1}{2}$	9 49 $\frac{1}{2}$		7	☉ and ☉.
	4 7 16	31 58	38 9 $\frac{1}{2}$ U.	107 27 17	0 54 $\frac{1}{2}$	9 47 $\frac{1}{2}$		4	☉ and ☉.
♂ — 6.	4 9 58 $\frac{1}{2}$	30 32 $\frac{1}{2}$	28 8 $\frac{1}{2}$ U.	119 33 28	0 31	8 9 $\frac{1}{2}$		8	☉ and ☉: Very Cloudy.
♂ — 7.	7 33 36 $\frac{1}{2}$		62 59 $\frac{1}{2}$ U.	52 47 0	0 18	7 40 $\frac{1}{2}$		4	☉ & Antares.
♂ — 8.	8 2 16	43 31 $\frac{1}{2}$	59 16 $\frac{1}{2}$ U.	65 26 48	South.	9 14 $\frac{1}{2}$		5	☉ & Antares.
♂ — 12.	9 5 0	76 21	28 24 $\frac{1}{2}$ L.	65 14 20	5 0	14 52 $\frac{1}{2}$		9	☉ & α Aquila.
	17 24 18 $\frac{1}{2}$	69 5 $\frac{1}{2}$	28 57 $\frac{1}{2}$ L.	62 52 8	5 0	14 14 $\frac{1}{2}$		5	☉ and Aldebaran.
♂ — 17.	21 24 13 $\frac{1}{2}$	36 50 $\frac{1}{2}$	22 56 U.	110 15 42	12 16	17 50		14	☉ and ☉.
♂ — 19.	20 18 32	19 31 $\frac{1}{2}$	51 9 $\frac{1}{2}$ U.	87 26 35	15 24	19 54		6	☉ & ☉: Great mot. & hazy.
	22 1 39 $\frac{1}{2}$	43 47	35 0 $\frac{1}{2}$ U.	86 56 47	15 33	20 12		6	☉ & ☉: Violent mot.
♂ — 21.	21 31 20 $\frac{1}{2}$	35 18 $\frac{1}{2}$	54 31 $\frac{1}{2}$ U.	62 26 10	18 30	21 12 $\frac{1}{2}$		10	☉ and ☉.
♂ — 29.	8 13 47 $\frac{1}{2}$	55 11 $\frac{1}{2}$	22 51 $\frac{1}{2}$ L.	73 37 11				7	☉ & α Aquila. Very hazy.
♂ Oct. 1.	3 59 37 $\frac{1}{2}$	37 17 $\frac{1}{2}$	73 21 $\frac{1}{2}$ U.	64 11 23	27 29	17 45		5	☉ & ☉: Ramfden's Quad.
	4 4 28	35 59 $\frac{1}{2}$	74 31 $\frac{1}{2}$ U.	64 13 15	27 29	17 42		6	☉ & ☉: Mr. Smith's ditto.
	4 38 47 $\frac{1}{2}$	29 1	79 44 $\frac{1}{2}$ U.	64 24 15	27 28 $\frac{1}{2}$	18 3		5	☉ & ☉: Mr. Clarke's ditto.
		21 26	80 44 $\frac{1}{2}$ U.	64 32 57	27 28 $\frac{1}{2}$	17 14 $\frac{1}{2}$		5	☉ & ☉: Doland's ditto.
♂ — 2.	3 12 36 $\frac{1}{2}$	46 3 $\frac{1}{2}$	53 14 $\frac{1}{2}$ U.	76 53 20	27 44 $\frac{1}{2}$	16 39 $\frac{1}{2}$		6	☉ and ☉.
♂ — 3.	3 26 30	41 59	45 22 U.	89 29 7 $\frac{1}{2}$	28 14 $\frac{1}{2}$	15 39		4	☉ and ☉.
♂ — 5.	4 4 33	30 5 $\frac{1}{2}$	33 56 U.	113 29 59	28 54 $\frac{1}{2}$	11 9 $\frac{1}{2}$		14	☉ & ☉: Very uncert.

1772	Time by Watch K		Altitude of the ☉ or * L. or *	Moon's Altitude	Distance of ☉ or * L. from ☉ or *	Latitude of the Ship S	Longitude West of Greenwich	Thermom	No of Obs	Objects
	H	M								
Oct 5	4	9 41½	29 40½	35 0½ U	113 32 48	28 54½	11 35		5	☉ and ☉ Less uncert
— 10	7	58 58½	42 53½	27 29½ L	72 24 2+		6 52½		9	☉ and α Aquilæ
— 11	8	5 50½	40 52	19 0½ L	83 14 15+		5 51		8	☉ and α Aquila
	13	37 19½	35 4	41 0½ L	43 30 7+		6 35½ East		7	☉ and Al debaran
— 16	18	44 43	23 42 0	18 11, U	118 30 6	35 1	4 7½	57	5	☉ and ☉ Cloudy
— 19	15	25 10½	33 25	31 23½ L	56 25 30 ±		8 16½		3	☉ and Al- debaran
	18	52 13½	29 34	37 43½ U	82 36 57	34 41½	7 47½		4	☉ and ☉
— 20	18	13 21	44 18½	29 45½ U	82 11 54	34 43	7 48½		6	☉ and ☉
	20	15 37	21 42½	43 22½ U	70 5 7	35 20½	8 5½	60½	6	☉ and ☉
	20	15 37	45 54½	37 20 U	69 22 52	35 26½	7 56	60½	6	☉ and ☉
Dec 4	2	25 56	35 30½	17 42, U	118 16 30	46 0	17 51		6	☉ and ☉ Agreat sea
1773										
Jan 2	4	6 48	27 0½	15 17½ U	108 58 49	58 52½	10 42	31½	9	☉ and ☉ Dollond's Q
	4	29 13½	24 3½	16 41, U	109 10 51	58 52½	8 41½	31½	5	☉ and ☉ C Cook's Q
— 13	16	38 56	27 34	19 4 U	112 31 34	64 1			1	☉ and ☉
	17	0 24½	29 55½	17 19½ U	112 23 9	64 1	39 29½		6	☉ and ☉
	17	9 5	30 49½	16 39½ U	112 19 44	64 1	39 49½		6	☉ and ☉
— 14	17	50 21½	35 6	22 6½ U	98 53 45	63 32½		35	2	☉ and ☉
	18	8 45	36 55½	20 25½ U	98 46 35	63 32½	39 58½	35	6	☉ and ☉ With a 1 leaf
	18	30 50	38 59½	18 17½ U	98 32 30	63 32½	38 35½	35	6	☉ and ☉ Without
— 27	23	48 11½	37 15½	31 45½ U	53 34 6	56 15	52 50	36	5	☉ and ☉ Dollond's Q
	23	57 47½	35 59½	31 39½ U	53 40 45	56 14½	51 7½	36	3	☉ & ☉ } Dollond's Q
	0	23 52½	32 48½	31 21½ U	53 49 39	56 13½	50 50	36	5	☉ & ☉ } Dollond's Q
Feb 11	14	26 10	20 47½	30 36 U	118 28 57	52 28½	70 30½		5	☉ & ☉ } Dollond's Q
	15	18 8	28 42½	23 19½ U	118 0 55	52 31½	70 7		5	☉ & ☉ } Dollond's Q
	15	39 46½	31 39½	20 29½ U	117 50 57	52 32½	70 12½		5	☉ and ☉ Dollond's
— 12	13	45 44	15 44½	42 33½ U	105 20 24	53 34½	72 24	34½	5	☉ and ☉ Ditto
	14	22 51	21 15	38 57 U	105 6 48	53 37½	73 10½	34½	5	☉ and ☉ Mr Clerk's Q
			34 37½	27 4½ U	104 22 34	53 43½	72 40½	35	4	☉ & ☉ } Dollond's
			36 19½	25 10½ U	104 15 43	53 43½	72 29½	35	3	☉ & ☉ } Dollond's

1773.	Time by Watch K.		Altitude of the ☉'s L. L. or *.	Moon's Altitude.	Distance of the Moon's L. from Sun or Star.	Latitude of the Ship S.	Longitude West of Greenwich.	Thermom.	No. of Obs.	Objects.	
	H	M									
☿ Feb. 17.	13	43 18	19 36	43 17½ L.	40 52 8	57 53½	83 1	32	4	☿ and ☉.	
	13	59 51½	21 49	44 31 L.	40 45 49	57 53½	83 9½	32	2	☿ and ☉.	
☉ March 7.	2	6 9	20 27	10 6½ L.	37 31 57	†	121 51½		3	☿ and Procyon.	
♄ — 13.	13	47 21	32 23½	11 8½ U.	109 53 40	†	136 55½		5	☿ and ☉.	
	14	3 8	33 2½	9 14½ U.	109 43 40	†	136 46½		5	☿ and ☉.	
☉ May 16.	8	19 47	8 9½	45 33½ L.	50 49 20	40 25½	173 25½	51½	5	☿ and ☉.	
	9	50 45	20 54½	44 54 L.	50 24 26	40 29½	173 3½	51½	5	☿ and ☉.	
♄ June 8.	22	29 7	70 9½ T.	19 54½ L.	59 32 8	†	42 21½	175 30	51½	7	☿ and Antares.
♄ — 9.	9	52 52½	15 43½	14 56½ U.	114 51 37	43 49½	179 40½	53½	6	☿ and ☉.	
			14 51½	25 33½ U.	79 57 11	46 8::			4	☿ and ☉.	
♄ — 12.	9	51 59	15 52½	23 40½ U.	79 53 4	46 8::			5	☿ and ☉.	
	9	59 29	16 24½	22 33 U.	79 49 58	46 8::			6	☿ and ☉.	
♄ — 26.	11	25 53	22 54½	16 34 U.	68 6 15	†	197 27½	55	6	☿ and ☉.	
☉ — 28.	18	35 37	60 29½	47 25½ U.	53 14 34	†	198 11½	50½	6	☿ and Antares.	
♄ — 29.	20	57 55½	72 0½	39 11½ U.	38 12 1	†	199 19½	51½	6	☿ and Antares.	
♄ — 30.	19	44 30		57 2 U.	23 1 28	†	43 8½	199 13½	2	☿ and Spica ♀.	
♄ July 1.	19	25 40		61 47½ L.	62 28 0	†	43 4	202 15½	2	☿ and Aquila: Very cloudy.	
	19	41 43½		61 52½ L.	37 43 30	†	43 4	202 28½	4	☿ and Spica ♀.	
☿ — 2.			4 12½	12 35½ U.	148 51 27	43 2½	203 11½		7	☿ and ☉: Back Obs.	
☉ — 4.	17	11 6		21 9½ L.	36 8 19	†	205 10½	48½	4	☿ and Antares.	
♄ — 6.	6	21 44½	6 37	7 22½ U.	147 24 57	41 23	209 4½	51	7	☉ and ☿: Back Obs. Hazy.	
☿ — 9.	6	18 16	8 35	20 44 U.	111 26 15	43 27		52	1	☿ and ☉.	
♄ — 10.	6	44 49½	13 8½	18 59 U.	99 53 47::	43 33½	216 53½		6	☿ and ☉: Dollond's Q.	
			19 20½	8 36½ U.	99 31 15::	43 33½	218 17½		2	☿ and ☉: Ramsden's.	
☉ — 11.	6	14 37½	10 37½	26 19½ U.	88 56 42	43 17½	218 38	47	9	☿ and ☉: Dollond's.	
	6	52 53	15 16½	20 39½ U.	88 45 57	43 17½	219 50	47	8	☿ and ☉: Ramsden's.	
♄ — 12.	2	41 45	63 28½	33 53½ L.	61 52 27	†	221 11½	46	6	☿ and Fomalhaut.	
	5	46 59	7 46½	31 10½ U.	78 6 20	43 2½	220 24½	47½	6	☿ and ☉: Dollond's Q.	

1773	Time by Watch K	Altitude of the ☉ & L or S r	Moon & Altitude	Distance of the ☉ & L from ☉ or Star	Latitude of the Ship S	Longitude East of Greenwich	Thermom	No of Obs	Objects
H					°	°			
D July 12	7 3 32	17 13 $\frac{1}{2}$	21 59 $\frac{1}{2}$ U	77 45 2	43 2 $\frac{1}{2}$	221 15 $\frac{1}{2}$	47	6	☉ and ☉ Ramfden's Q
It appears from the watch, that one or both of the foregoing altitudes of the Sun are badly observed									
O — 25	17 39 16 $\frac{1}{2}$	83 41 $\frac{1}{2}$	26 8 L	57 15 2 +		223 34	62	5	☉ and Antares Hazy
D — 26	12 2 14	26 42	51 57 $\frac{1}{2}$ U	77 51 36	28 46	224 57 $\frac{1}{2}$	67	5	☉ and ☉ Dollond's Q
	12 27 5 $\frac{1}{2}$	22 41	56 32 U	78 1 50	28 45 $\frac{1}{2}$	224 28 $\frac{1}{2}$	67	6	☉ and ☉ Ramfden's
☉ — 27	11 50 19	29 12 $\frac{1}{2}$	41 32 $\frac{1}{2}$ U	91 2 25	27 50 $\frac{1}{2}$	225 17	69	6	☉ and ☉
	15 54 5		70 27 $\frac{1}{2}$ L	17 10 45 +	27 47 $\frac{1}{2}$	225 36 $\frac{1}{2}$	65 $\frac{1}{2}$	6	☉ and Spica 3R
	16 23 53	21 19 $\frac{1}{2}$	66 20 $\frac{1}{2}$ L	80 52 5 +		224 50 $\frac{1}{2}$	65 $\frac{1}{2}$	6	☉ and α Aquila
☉ — 28	12 18 25	25 32 $\frac{1}{2}$	36 38 $\frac{1}{2}$ U	104 40 32	27 45	224 39	68	6	☉ and ☉
☉ — 29	12 51 57 $\frac{1}{2}$	12 22	32 20 $\frac{1}{2}$ U	118 15 34	27 26 $\frac{1}{2}$	224 25	70	6	☉ and ☉ Very hazy
☉ — 31	13 47 41	9 32 $\frac{1}{2}$	20 59 $\frac{1}{2}$ U	145 27 8	26 9 $\frac{1}{2}$	225 33 $\frac{1}{2}$	68	8	☉ and ☉ Back Obs
	15 59 52	79 42 $\frac{1}{2}$	49 39 $\frac{1}{2}$ U	30 17 11 +		225 24 $\frac{1}{2}$	67 $\frac{1}{2}$	6	☉ and Antares
D Aug 2	19 21 55 $\frac{1}{2}$		68 47 $\frac{1}{2}$ U	59 17 26 +	22 50	226 51	69	6	☉ and Antares
☉ — 3	18 28 35 $\frac{1}{2}$		43 52 L	73 9 38 +	21 48 $\frac{1}{2}$	227 4		6	☉ and Antares
☉ — 7	6 35 12	37 33	4 54 $\frac{1}{2}$ U	119 14 25	18 9 $\frac{1}{2}$			2	☉ and ☉ faint
☉ — 8	6 38 57 $\frac{1}{2}$	37 2 $\frac{1}{2}$	15 6 U	108 9 9	17 44 $\frac{1}{2}$	222 15		6	☉ and ☉
☉ — 9	6 53 24	38 30 $\frac{1}{2}$	22 30 U	97 3 35	17 24 $\frac{1}{2}$	220 17 $\frac{1}{2}$		4	☉ and ☉
☉ — 11	5 59 10	25 6	49 37 U	75 19 48	17 12 $\frac{1}{2}$	216 18		5	☉ and ☉ Hazy
☉ — 13	5 29 21 $\frac{1}{2}$	16 13 $\frac{1}{2}$	52 41 $\frac{1}{2}$ U	53 1 24 +		213 15 $\frac{1}{2}$	78	6	☉ and ☉
	5 54 40	21 51 $\frac{1}{2}$	53 58 $\frac{1}{2}$ U	52 55 27 +		213 17 $\frac{1}{2}$	78	6	☉ and ☉
☉ — 14	5 37 7	16 27 $\frac{1}{2}$	46 53 L	41 28 19 +	17 43 $\frac{1}{2}$	211 52	77	4	☉ and ☉ very faint.
☉ Sept 9	6 10 7		48 2 $\frac{1}{2}$ U	83 30 39 +	16 45 $\frac{1}{2}$	208 12 $\frac{1}{2}$	79	6	☉ & ☉
	6 40 36		43 32 $\frac{1}{2}$ U	83 23 27 +	16 45 $\frac{1}{2}$	208 29 $\frac{1}{2}$	79	6	☉ & ☉
☉ — 10	6 53 54		48 34 $\frac{1}{2}$ U	72 3 12 +	16 45 $\frac{1}{2}$	208 3 $\frac{1}{2}$	80 $\frac{1}{2}$	6	☉ & ☉
	7 15 26 $\frac{1}{2}$		52 38 $\frac{1}{2}$ U	60 25 39 +	16 25 $\frac{1}{2}$	207 58 $\frac{1}{2}$	76	6	☉ & ☉
☉ — 21	16 39 29 $\frac{1}{2}$	14 45	75 3 L	59 53 44	18 29	204 8	80 $\frac{1}{2}$	3	☉ & ☉
	15 43 54 $\frac{1}{2}$	11 25 $\frac{1}{2}$	71 56 $\frac{1}{2}$ L	59 57 28	18 29	204 4 $\frac{1}{2}$	80 $\frac{1}{2}$	5	☉ & ☉
☉ — 24	14 9 21	37 32 $\frac{1}{2}$	42 3 $\frac{1}{2}$ U	99 37 8	19 32 $\frac{1}{2}$	199 59 $\frac{1}{2}$	74 $\frac{1}{2}$	6	☉ and ☉
	14 31 12 $\frac{1}{2}$	32 34 $\frac{1}{2}$	47 0 U	99 47 14	19 33 $\frac{1}{2}$	199 3 $\frac{1}{2}$	74 $\frac{1}{2}$	3	☉ and ☉ Cloudy

1 Outcomes Very
Harsh

1773.	Time by Watch K.		Altitude of the ☉'s L. or Star.	Moon's Altitude.	Distance of the ☉'s L. from the ☉'s or Star.	Latitude of the Ship S.	Longitude East of Greenwich.	Thermom.	No. of Obs.	Object.
	H	M								
h Sept. 25.	13	37	39	46 24 $\frac{1}{2}$	20 17 $\frac{1}{2}$ U.	112 11 58	19 55 $\frac{1}{2}$	198 0 $\frac{1}{2}$	73 $\frac{1}{2}$	6 } D and ☉.
h — 29.	20	41	41 $\frac{1}{2}$	49 23 $\frac{1}{2}$	57 11 L.	56 50 22 $\frac{1}{2}$		190 14 $\frac{1}{2}$	67	3 } D and α Aquilæ.
o Oct. 3.	21	32	53			70 22 40 $\frac{1}{2}$	21 4 $\frac{1}{2}$	185 36 $\frac{1}{2}$	69	6 } D & Fo. malhaut.
	21	55	23			54 39 28 $\frac{1}{2}$	21 4 $\frac{1}{2}$	185 1	69	6 } D and α Pegasi.
	6	42	17	12 23 U.	146 24 20 $\frac{1}{2}$	21 4 $\frac{1}{2}$	185 6 $\frac{1}{2}$		69	9 } D & ☉: Back Obs.
h — 4.	3	23	34	52 13 $\frac{1}{2}$ U.	83 8 52 $\frac{1}{2}$	21 4 $\frac{1}{2}$	185 23 $\frac{1}{2}$		65 $\frac{1}{2}$	6 } D & Fo. malhaut.
	3	47	16	50 4 $\frac{1}{2}$ U.	56 2 8 $\frac{1}{2}$	21 4 $\frac{1}{2}$	184 51 $\frac{1}{2}$		65 $\frac{1}{2}$	7 } D and Pollux.
	7	8	13 $\frac{1}{2}$	15 29 $\frac{1}{2}$ U.	135 14 25 $\frac{1}{2}$	21 4 $\frac{1}{2}$	184 5 $\frac{1}{2}$		68	9 } D & ☉: Back Obs.
h — 6.	8	48	23	12 44 $\frac{1}{2}$ U.	113 0 14 $\frac{1}{2}$	21 4 $\frac{1}{2}$	185 20 $\frac{1}{2}$		72	9 } D & ☉: D.
	9	1	34	10 4 $\frac{1}{2}$ U.	112 53 25 $\frac{1}{2}$	21 4 $\frac{1}{2}$	184 51 $\frac{1}{2}$		72 $\frac{1}{2}$	9 } D & ☉: R.
h — 7.	8	59	0 $\frac{1}{2}$	45 46 $\frac{1}{2}$	19 52 $\frac{1}{2}$ U.	101 58 21	22 1 $\frac{1}{2}$	184 37	73 $\frac{1}{2}$	5 } D and ☉.
	9	22	18 $\frac{1}{2}$	50 57 $\frac{1}{2}$	15 11 U.	101 49 35	22 1 $\frac{1}{2}$	184 45 $\frac{1}{2}$	73 $\frac{1}{2}$	6 } D and ☉.
h — 9.	7	43	36 $\frac{1}{2}$	28 36 $\frac{1}{2}$	47 55 $\frac{1}{2}$ U.	79 53 17	22 36 $\frac{1}{2}$	183 59	70	6 } D and ☉.
o — 10.	9	31	36	51 30 $\frac{1}{2}$	43 18 $\frac{1}{2}$ U.	67 22 14	23 42 $\frac{1}{2}$	182 27 $\frac{1}{2}$	69	6 } D and ☉.
h — 11.	8	2	43	30 50 $\frac{1}{2}$	62 51 $\frac{1}{2}$ L.	55 35 12	25 18 $\frac{1}{2}$	181 53 $\frac{1}{2}$	69 $\frac{1}{2}$	6 } D and ☉.
h — 20.	14	49	27	44 9 $\frac{1}{2}$	65 6 $\frac{1}{2}$ U.	55 58 21	37 58 $\frac{1}{2}$	179 49	61 $\frac{1}{2}$	6 } D and ☉.
h — 21.	14	48	52	44 51 $\frac{1}{2}$	54 29 $\frac{1}{2}$ U.	69 32 4	39 10 $\frac{1}{2}$	178 6	63 $\frac{1}{2}$	6 } D and ☉.
h — 23.	15	50	33 $\frac{1}{2}$	34 54 $\frac{1}{2}$	42 15 $\frac{1}{2}$ U.	95 50 0	40 28 $\frac{1}{2}$	176 42 $\frac{1}{2}$	58	6 } D and ☉.
h Dec. 4.	5	29	37	9 30	24 47 $\frac{1}{2}$ U.	119 25 16 $\frac{1}{2}$	50 4 $\frac{1}{2}$	180 22 $\frac{1}{2}$	45	10 } D and ☉: Very hazy.
h — 7.	9	23	50	44 22 $\frac{1}{2}$	24 18 $\frac{1}{2}$ U.	82 15 22	55 18 $\frac{1}{2}$	181 30 $\frac{1}{2}$	45	6 } D and ☉: Cloudy.
h — 8.	10	14	5	48 52 $\frac{1}{2}$	26 17 $\frac{1}{2}$ U.	69 11 12 $\frac{1}{2}$		182 11 $\frac{1}{2}$	45	6 } D and ☉: Hazy.
o — 19.	14	49	36	30 38 $\frac{1}{2}$	32 13 $\frac{1}{2}$ U.	69 12 39	64 49 $\frac{1}{2}$	210 51		6 } D and ☉.
h — 24.	16	9	43	18 11 $\frac{1}{2}$	8 43 $\frac{1}{2}$ U.	126 31 18	67 3	223 0 $\frac{1}{2}$	33	10 } D and ☉: Back Obs.
1774.										
h Jan. 5.				49 11 $\frac{1}{2}$	23 54 $\frac{1}{2}$ U.	89 40 13	52 12	224 45	46	1 } D and ☉.
				52 1 $\frac{1}{2}$	20 51 U.	89 29 43	52 12	224 48 $\frac{1}{2}$	46	2 } D and ☉.
h — 6.				38 40 $\frac{1}{2}$	43 4 $\frac{1}{2}$ U.	77 21 22	50 45 $\frac{1}{2}$	226 35	47 $\frac{1}{2}$	3 } D & ☉ { Cloudy.
	6	17	7	42 30 $\frac{1}{2}$	40 32 $\frac{1}{2}$ U.	77 11 55	50 45 $\frac{1}{2}$	226 36 $\frac{1}{2}$	47 $\frac{1}{2}$	6 } D & ☉
h — 7.	6	29	19	46 2 $\frac{1}{2}$	48 19 $\frac{1}{2}$ U.	63 51 7	49 19	228 47 $\frac{1}{2}$	47 $\frac{1}{2}$	6 } D and ☉.
	6	59	11	50 27 $\frac{1}{2}$	45 18 U.	63 38 27	49 17	228 37	47 $\frac{1}{2}$	6 } D and ☉.
h — 8.	5	27	52 $\frac{1}{2}$	38 35 $\frac{1}{2}$	56 48 $\frac{1}{2}$ U.	50 42 10 $\frac{1}{2}$		232 26 $\frac{1}{2}$	49	6 } D and ☉.
o — 16.	12	13	4 $\frac{1}{2}$	37 20 $\frac{1}{2}$	38 27 $\frac{1}{2}$ U.	47 13 8 $\frac{1}{2}$		241 9 $\frac{1}{2}$	48 $\frac{1}{2}$	6 } D and ☉: Very hazy.
h — 18.	11	7	44	41 9	22 13 $\frac{1}{2}$ U.	70 47 30 $\frac{1}{2}$		243 23 $\frac{1}{2}$	41 $\frac{1}{2}$	8 } D and ☉.
h Feb. 3.	4	48	36	33 33 $\frac{1}{2}$	21 58 $\frac{1}{2}$ U.	95 56 51 $\frac{1}{2}$		259 53 $\frac{1}{2}$	34 $\frac{1}{2}$	6 } D and ☉.

At Tongatabu, one of the Friendly Isles.

Cloudy.

1774-	Time by Watch K.	Altitude of the ☉ [L or *]	Moon's Altitude	Distance of the ☉ & L from ☉ or *	Latitude of the Ship 8	Longitude East of Greenwich	Thermom	No of Obs	Objects
	H	°			°				
24 Feb 3	5 11 18 $\frac{1}{2}$	25 13 $\frac{1}{2}$	19 55 $\frac{1}{2}$ U	95 46 31 +		260 15 $\frac{1}{2}$	34 $\frac{1}{2}$	6	☉ and ☉
2 — 4		25 23 $\frac{1}{2}$	36 53 $\frac{1}{2}$ U	83 35 22	64 28 $\frac{1}{2}$	260 28	37 $\frac{1}{2}$	4	☉ and ☉ Cloudy
2 — 18	10 17 0	38 53 $\frac{1}{2}$	23 47 $\frac{1}{2}$ U	83 22 50	43 52 $\frac{1}{2}$	265 54 $\frac{1}{2}$		6	☉ and ☉ Great Sea
6 — 19	11 47 14	23 54 $\frac{1}{2}$	27 28 $\frac{1}{2}$ U	94 48 15 +		264 16 $\frac{1}{2}$	59	6	☉ and ☉ Cloudy
10 — 20	10 35 31	36 47 $\frac{1}{2}$	14 27 $\frac{1}{2}$ U	105 16 52	39 43 $\frac{1}{2}$	264 59 $\frac{1}{2}$	66	10	☉ and ☉
11 — 21	11 42 20	23 46 $\frac{1}{2}$	18 28 U	116 34 37	37 31 $\frac{1}{2}$	266 13 $\frac{1}{2}$		8	☉ and ☉
14 — 23	4 57 23		35 20 $\frac{1}{2}$ L	31 17 33 +		263 58 $\frac{1}{2}$	66 $\frac{1}{2}$	6	☉ and Re- gulus
	5 8 45 $\frac{1}{2}$		35 6 $\frac{1}{2}$ L	48 56 16 +		263 40 $\frac{1}{2}$	66 $\frac{1}{2}$	6	☉ and Alde- baran
17 — 27	5 58 31		37 25 L	22 2 24 +		257 46	66 $\frac{1}{2}$	6	☉ and Re- gulus
	6 15 9		40 0 $\frac{1}{2}$ L	31 57 59 +		258 17	66 $\frac{1}{2}$	6	☉ and Spica ♌
18 — 28		15 47	9 40 $\frac{1}{2}$ U	153 34 37	32 27 $\frac{1}{2}$	257 49 $\frac{1}{2}$		7	☉ and ☉
1 March 1		22 39 $\frac{1}{2}$	15 34 $\frac{1}{2}$ U	140 26 53	31 22	157 58 $\frac{1}{2}$		10	☉ and ☉
2 — 2		21 27 $\frac{1}{2}$	29 29 $\frac{1}{2}$ U	127 28 42	30 39 $\frac{1}{2}$	258 18		10	☉ and ☉
3 — 3		17 25	46 7 $\frac{1}{2}$ U	114 25 45	30 6 $\frac{1}{2}$	257 59 $\frac{1}{2}$	74	10	☉ and ☉
4 — 4		28 18 $\frac{1}{2}$	48 33 $\frac{1}{2}$ U	100 49 15	29 45 $\frac{1}{2}$	259 10		10	☉ and ☉
5 — 5	5 43 48	55 12 $\frac{1}{2}$	32 50 $\frac{1}{2}$ U	86 35 42 +		259 6		9	☉ and ☉
6 — 6		45 48 $\frac{1}{2}$	56 33 $\frac{1}{2}$ U	73 36 42	28 28 $\frac{1}{2}$	258 3 $\frac{1}{2}$		8	☉ and ☉
7 — 7	6 13 17 $\frac{1}{2}$	57 28 $\frac{1}{2}$	55 57 $\frac{1}{2}$ U	59 53 15 +		256 28 $\frac{1}{2}$		8	☉ and ☉
8 — 8		16 25 $\frac{1}{2}$	63 20 $\frac{1}{2}$ L	47 38 18	27 5 $\frac{1}{2}$	255 0		10	☉ and ☉
16 — 16	11 38 51	35 4 $\frac{1}{2}$	50 46 U	41 7 19	27 7	249 57 $\frac{1}{2}$		6	☉ and ☉
17 — 17		27 16 $\frac{1}{2}$	48 53 $\frac{1}{2}$ U	52 47 59	26 38 $\frac{1}{2}$	248 51 $\frac{1}{2}$	76	10	☉ and ☉ Cloudy
18 — 18		39 7 $\frac{1}{2}$	45 7 $\frac{1}{2}$ U	63 31 41	26 0 $\frac{1}{2}$	248 52 $\frac{1}{2}$		8	☉ and ☉
19 — 19	11 23 32	40 6 $\frac{1}{2}$	39 21 $\frac{1}{2}$ U	74 32 4	24 41 $\frac{1}{2}$	247 57 $\frac{1}{2}$	76 $\frac{1}{2}$	4	☉ and ☉ Cloudy
		35 25 $\frac{1}{2}$	42 1 $\frac{1}{2}$ U	74 37 46	24 41	248 2 $\frac{1}{2}$	76 $\frac{1}{2}$	10	☉ and ☉
21 — 21	11 40 17	38 51 $\frac{1}{2}$	27 27 U	96 32 11	20 48 $\frac{1}{2}$	246 16 $\frac{1}{2}$		6	☉ and ☉
			30 12 $\frac{1}{2}$ U	96 37 3	20 48	246 8 $\frac{1}{2}$		6	☉ and ☉
22 — 22	11 37 20 $\frac{1}{2}$	40 39 $\frac{1}{2}$	17 54 $\frac{1}{2}$ U	107 36 0	19 13	245 18	75 $\frac{1}{2}$	10	☉ and ☉
24 — 24		22 37 $\frac{1}{2}$	16 35 $\frac{1}{2}$ U	130 57 55	16 55 $\frac{1}{2}$		77	7	☉ and ☉ Back Obs
There seems to be something amiss in these last observations they are the first back observations that I have made which did not agree nearly with the others									
28 — 28	19 21 46 $\frac{1}{2}$		57 29 I	44 52 37 +		237 28 $\frac{1}{2}$	79	6	☉ and Re- gulus
	19 40 38		62 2 $\frac{1}{2}$ L	54 41 21 +		237 29	79	7	☉ and An- tares
30 — 30		17 42 $\frac{1}{2}$	17 22 $\frac{1}{2}$ U	144 23 26	9 18 $\frac{1}{2}$	232 23	80	10	☉ and ☉ Back Obs

1774.	Time by Watch K.		Altitude of the ☉'s L. L. or *.	Moon's Altitude.	Distance of the ☉'s L. from ☉'s or Star.	Latitude of the Ship S.	Longitude East of Greenwich.	Thermom.	No. of Obs.	Objects.	
	H	"									
4 March 31.			25 2 $\frac{1}{2}$	23 53 U.	130 31 5	9 27 $\frac{1}{2}$	230 8	80 $\frac{1}{2}$	8	☉ and ☉: Back Obs.	
2 April 1.			20 26 $\frac{1}{2}$	41 49 $\frac{1}{2}$ U.	117 2 1	9 28 $\frac{1}{2}$	228 42	79 $\frac{1}{2}$	10	☉ and ☉.	
6 — 2.			17 23 $\frac{1}{2}$	58 8 $\frac{1}{2}$ U.	103 33 1	9 31 $\frac{1}{2}$	227 15 $\frac{1}{2}$	81 $\frac{1}{2}$	10	☉ and ☉.	
10 — 3.			20 8 $\frac{1}{2}$	68 37 $\frac{1}{2}$ U.	90 6 32	9 32 $\frac{1}{2}$	225 20 $\frac{1}{2}$	81 $\frac{1}{2}$	10	☉ and ☉.	
8 — 5.			41 57 $\frac{1}{2}$	74 11 $\frac{1}{2}$ U.	63 20 16	9 20 $\frac{1}{2}$	222 11 $\frac{1}{2}$	82	10	☉ and ☉.	
4 — 6.			16 54 $\frac{1}{2}$	67 21 $\frac{1}{2}$ L.	51 1 16	9 38	221 26 $\frac{1}{2}$	77 $\frac{1}{2}$	10	☉ and ☉.	
2 — 15.	14	2 41	31 9 $\frac{1}{2}$	57 52 $\frac{1}{2}$ U.	44 51 38	13 53 $\frac{1}{2}$	217 2 $\frac{1}{2}$	82 $\frac{1}{2}$	5	☉ and ☉.	
10 — 17.			38 21 $\frac{1}{2}$	49 32 $\frac{1}{2}$ U.	66 44 16	14 28 $\frac{1}{2}$	215 14 $\frac{1}{2}$		6	☉ and ☉.	
	14	47 10 $\frac{1}{2}$	22 43 $\frac{1}{2}$	56 46 U.	67 0 20	14 29 $\frac{1}{2}$	215 8		8	☉ and ☉.	
☉ — 18.	13	40 38	37 35 $\frac{1}{2}$	42 8 $\frac{1}{2}$ U.	77 46 1	15 5 $\frac{1}{2}$	214 18		10	☉ and ☉.	
8 — 19.			25 15 $\frac{1}{2}$	43 41 $\frac{1}{2}$ U.	89 8 52	15 41 $\frac{1}{2}$	213 14 $\frac{1}{2}$	81 $\frac{1}{2}$	10	☉ and ☉.	
☉ May 15.	15	3 23	20 38 $\frac{1}{2}$	53 22 $\frac{1}{2}$ L.	48 10 56	16 42 $\frac{1}{2}$	209 9 $\frac{1}{2}$	83	6	☉ & ☉	
☉ — 16.	14	9 41	31 27 $\frac{1}{2}$		58 58 27	16 42 $\frac{1}{2}$	209 20 $\frac{1}{2}$	84 $\frac{1}{2}$	6	☉ & ☉	
										☉ and Regul.	
	17	57 50		37 55 $\frac{1}{2}$ L.	31 32 16 +	16 42 $\frac{1}{2}$		81	3		
8 — 17.	15	19 56	17 1 $\frac{1}{2}$		70 20 34	16 42 $\frac{1}{2}$	209 38 $\frac{1}{2}$	83	8	☉ & ☉	
4 — 18.	18	24 23 $\frac{1}{2}$		52 23 $\frac{1}{2}$ L.	60 36 18 +	16 42 $\frac{1}{2}$	209 37 $\frac{1}{2}$	81	6	☉ and Spica	
4 — 19.	15	6 38 $\frac{1}{2}$	19 43 $\frac{1}{2}$		93 14 3	16 42 $\frac{1}{2}$	209 17	81 $\frac{1}{2}$	10	☉ & ☉	
										☉ and Spica	
	18	39 20		59 19 $\frac{1}{2}$ L.	47 57 3 +	16 42 $\frac{1}{2}$	209 43 $\frac{1}{2}$	80 $\frac{1}{2}$	6		
2 — 20.	15	1 35	20 43 $\frac{1}{2}$		105 9 5	16 42 $\frac{1}{2}$	208 27 $\frac{1}{2}$	82 $\frac{1}{2}$	3	☉ & ☉	
	15	14 56 $\frac{1}{2}$	17 56 $\frac{1}{2}$		105 13 12	16 42 $\frac{1}{2}$	208 38 $\frac{1}{2}$	82 $\frac{1}{2}$	5	☉ & ☉	
										☉ and Spica	
	17	42 53			35 19 4 +	16 42 $\frac{1}{2}$	208 47 $\frac{1}{2}$	80 $\frac{1}{2}$	5		
6 — 21.	15	15 51	17 44 $\frac{1}{2}$		117 32 13	17 42 $\frac{1}{2}$	208 57 $\frac{1}{2}$	83	8	☉ & ☉	
										☉ and Spica	
	17	48 25 $\frac{1}{2}$			22 5 6 +	17 42 $\frac{1}{2}$	208 31 $\frac{1}{2}$	81 $\frac{1}{2}$	9		
☉ — 29.	4	16 13 $\frac{1}{2}$	16 17 $\frac{1}{2}$	72 0 $\frac{1}{2}$ U.	57 5 28 +	16 45 $\frac{1}{2}$	208 22 $\frac{1}{2}$	75	10	☉ and Antares.	
☉ — 30.										☉ & ☉: Back Obs.	
			48 6 $\frac{1}{2}$	26 57 $\frac{1}{2}$ U.	123 15 49	16 45 $\frac{1}{2}$	107 59 $\frac{1}{2}$	78	10		
			55 48 $\frac{1}{2}$	34 18 $\frac{1}{2}$ U.	109 51 16	16 45 $\frac{1}{2}$	207 57 $\frac{1}{2}$	79 $\frac{1}{2}$	10	☉ & ☉	
8 — 31.			58 51 $\frac{1}{2}$	43 34 $\frac{1}{2}$ U.	96 55 29	16 45 $\frac{1}{2}$	207 50 $\frac{1}{2}$	80	10	☉ & ☉	
4 June 1.			68 31	47 30 $\frac{1}{2}$ U.	84 17 45	16 45 $\frac{1}{2}$	208 10 $\frac{1}{2}$	78 $\frac{1}{2}$	6	☉ & ☉	
4 — 2.	7	46 25		64 54 U.	72 22 55	16 45 $\frac{1}{2}$	208 18 $\frac{1}{2}$	78 $\frac{1}{2}$	2	☉ & ☉	
	8	2 16		61 52 $\frac{1}{2}$ U.	72 18 20	16 45 $\frac{1}{2}$	208 18 $\frac{1}{2}$	78 $\frac{1}{2}$	6	☉ & ☉	
2 — 3.				54 35 $\frac{1}{2}$ U.	60 9 35	16 45 $\frac{1}{2}$	208 12 $\frac{1}{2}$	81	10	☉ & ☉	
6 — 4.	8	12 3	30 34 $\frac{1}{2}$	65 30 $\frac{1}{2}$ L.	48 52 28	16 44 $\frac{1}{2}$	207 22 $\frac{1}{2}$	82 $\frac{1}{2}$	10	☉ and ☉.	
☉ — 13.	15	41 33	20 12 $\frac{1}{2}$	52 22 L.	41 15 45	18 46 $\frac{1}{2}$	197 49 $\frac{1}{2}$	77 $\frac{1}{2}$	3	☉ & ☉	
	15	57 57	17 0 $\frac{1}{2}$	50 51 L.	41 20 18	18 46 $\frac{1}{2}$	197 44 $\frac{1}{2}$	77 $\frac{1}{2}$	8	☉ & ☉	
8 — 14.	2	49 17	30 45 $\frac{1}{2}$	54 54 $\frac{1}{2}$ L.	52 12 35 +		197 50	76 $\frac{1}{2}$	10	☉ and ☉.	

* These are double altitudes of the ☉'s L. L. taken with Hadley's Sextant from a quicksilver horizon.

1774-	Time by Watch K		Altitude of the ☉ or *		Moon's Altitude	Distance of ☉ or L from ☉ or Star		Latitude of the Ship S	Longitude East of Greenwich		Thermom	No of Obs	Objects
	H	M	°	'		°	'		°	'			
June 14	18	23	13	69	5½	38	48½ L		198	3	75½	10	☉ and Spica
15	14	43	8	32	4½	51	34½ U		197	51	75	10	☉ and ☉
	18	38	33½	72	55½	46	36½ L		197	50	74½	10	☉ and Spica
16	14	40	14	33	0½	45	6½ U		197	44	75½	10	☉ and ☉
	18	31	52½	72	14½	58	35½ L		197	51½	74½	8	☉ and Spica
17	15	14	50	28	7½	43	21½ U	18 5	196	5½	74½	6	☉ and ☉
	15	25	51	26	8½	45	41 U	18 5	195	38	74½	6	Doll Q
	18	48	3	75	21½	66	37½ L		195	55½	73	7	☉ and ☉
19	16	23	46	27	15½	37	37½ U	18 27½	192	5	76	7	Rams Q
	18	55	53	36	41½	70	46½ U		192	28	75	10	☉ and ☉
20	17	5	49	9	56½	34	53½ U	18 59	190	30½	76½	10	☉ and An
21	19	51	56	80	56½	60	47½ U		190	33	79	6	tares
	20	3	47	51	46	63	29½ U		190	10	79	6	☉ and ☉
22	22	31	19	48	55½	83	7½ U		189	41	76	6	Back Obs
	23	5	31	36	32½	88	6 U		189	11	76	6	☉ and Spica
23	7	54	53	79	57½	31	46½ L		188	16	76½	10	☉ and a
26	8	28	13½	12	10½	19	45½ U	20 15	185	46	74½	9	Aquilæ
27	8	54	49½	17	21½	25	9 U	20 15	184	50		10	☉ and Spi
28				18	18½	34	30½ U	20 13	185	7½	74½	10	ca
				33	3½	15	29½ U	20 12	185	2½	77	10	☉ and ☉
29	3	36	41	27	24	72	25½ L		185	42½	74½	6	☉ and ☉
July 1	17	19	35	21	51½	53	53½ U	20 0½	182	4½	72	8	☉ and a
	7	29	28	23	38½	52	13½ U	20 0½	182	21	72	10	Aquilæ
2	4	14	4½	69	16½	47	11 L		181	49½	71	8	☉ and ☉
	6	54	19	16	45	59	47 U	19 45	181	46½	72	6	Doll Q

1774.	Time by Watch K.		Altitude of the ☉'s L. L.	Moon's Altitude.	Distance Moon's L. from Sun's or Star.	Latitude of the Ship S.	Longitude East of Greenwich.	Thermom.	No. of Obs.	Objects.
	H	M								
5 July 2.	7	1 39	18 9 $\frac{1}{2}$	59 17 $\frac{1}{2}$ U.	66 29 24	19 45	181 59 $\frac{1}{2}$	72	6	{ ☉ and ☉ : Ramsf. Q.
	8	13 1	31 5 $\frac{1}{2}$	50 28 $\frac{1}{2}$ U.	65 41 47	19 45 $\frac{1}{2}$	182 18 $\frac{1}{2}$	72 $\frac{1}{2}$	6	{ ☉ and ☉ : Mr. Clerke's Q.
☉ — 3.	7	11 2	19 29 $\frac{1}{2}$	56 54 $\frac{1}{2}$ L.	54 42 7	19 58 $\frac{1}{2}$	181 49 $\frac{1}{2}$	75 $\frac{1}{2}$	6	{ ☉ and ☉ : Dol. Q.
	7	16 50	20 35 $\frac{1}{2}$	56 49 $\frac{1}{2}$ L.	54 40 48	19 58 $\frac{1}{2}$	181 47 $\frac{1}{2}$	75 $\frac{1}{2}$	6	{ ☉ and ☉ : Ramsf. Q.
	8	31 36	33 40 $\frac{1}{2}$	51 46 $\frac{1}{2}$ U.	54 23 19	20 1	182 5 $\frac{1}{2}$	75 $\frac{1}{2}$	6	{ ☉ and ☉ : Mr. Clerke's Q.
☉ — 4.	6	38 58 $\frac{1}{2}$	12 4 $\frac{1}{2}$	48 50 L.	43 43 7	20 34 $\frac{1}{2}$	180 42 $\frac{1}{2}$	75	6	{ ☉ and ☉ : Dol. Q.
	6	46 46	13 36 $\frac{1}{2}$	49 40 L.	43 42 8 $\frac{1}{2}$	20 34 $\frac{1}{2}$	181 3 $\frac{1}{2}$	75	6	{ ☉ and ☉ : Ramsf. Q.
☉ — 13.			28 49 $\frac{1}{2}$	65 9 $\frac{1}{2}$ L.	46 57 35	16 20 $\frac{1}{2}$	173 10 $\frac{1}{2}$	76 $\frac{1}{2}$	6	{ ☉ and ☉ : Dol. Q.
			27 22 $\frac{1}{2}$	65 0 $\frac{1}{2}$ L.	47 0 10	16 20 $\frac{1}{2}$	172 51 $\frac{1}{2}$	76 $\frac{1}{2}$	6	{ ☉ and ☉ : Ramsf. Q.
	6	12 8	76 5 $\frac{1}{2}$	34 15 $\frac{1}{2}$ L.	41 38 58 $\frac{1}{2}$		173 35	75 $\frac{1}{2}$	8	{ ☉ and Spica ♀.
☉ — 14.	14	34 41	33 8 $\frac{1}{2}$	65 20 $\frac{1}{2}$ U.	58 40 22	15 33	172 18	77 $\frac{1}{2}$	6	{ ☉ and ☉ : Dol. Q.
	14	41 13 $\frac{1}{2}$	31 56 $\frac{1}{2}$	66 13 $\frac{1}{2}$ U.	58 42 21	15 33	172 12	77 $\frac{1}{2}$	4	{ ☉ and ☉ : Ramsf. Q.
☉ — 15.	15	21 13 $\frac{1}{2}$	25 37 $\frac{1}{2}$	67 58 $\frac{1}{2}$ U.	70 57 24	15 9 $\frac{1}{2}$	170 55 $\frac{1}{2}$	79	6	{ ☉ and ☉ : Dol. Q.
	15	26 55	24 29 $\frac{1}{2}$	68 58 U.	70 59 20	15 9 $\frac{1}{2}$	170 51 $\frac{1}{2}$	79	4	{ ☉ and ☉ : Ramsf. Q.
	18	45 53	64 26 $\frac{1}{2}$	53 21 $\frac{1}{2}$ L.	61 53 34 $\frac{1}{2}$		171 14 $\frac{1}{2}$	78 $\frac{1}{2}$	8	{ ☉ and An- tares.
☉ — 20.	18	48 51	66 20	58 14 $\frac{1}{2}$ U.	55 37 59 $\frac{1}{2}$		168 36	74 $\frac{1}{2}$	8	{ ☉ and Spica ♀.
	19	3 46	17 28 $\frac{1}{2}$	61 45 U.	46 50 50 $\frac{1}{2}$		168 2 $\frac{1}{2}$	74 $\frac{1}{2}$	8	{ ☉ and Aquilæ.
☉ — 21.	20	49 42	36 39 $\frac{1}{2}$ T.	49 53 $\frac{1}{2}$ T.	71 33 5 $\frac{1}{2}$	16 25 $\frac{1}{2}$	167 40 $\frac{1}{2}$	74	12	{ ☉ and Spica ♀.
☉ — 22.	18	56 16			40 48 55 $\frac{1}{2}$	16 25 $\frac{1}{2}$	168 25	75	10	{ ☉ and An- tares.
☉ — 23.	18	39 1	67 46 $\frac{1}{2}$ T.	14 29 $\frac{1}{2}$ T.	55 56 46 $\frac{1}{2}$	16 33 $\frac{1}{2}$	168 17 $\frac{1}{2}$	77 $\frac{1}{2}$	7	{ ☉ and An- tares.
☉ — 26.			22 27 $\frac{1}{2}$	14 12 $\frac{1}{2}$ U.	131 44 56	17 53 $\frac{1}{2}$	169 33 $\frac{1}{2}$	74	10	{ ☉ and ☉ : Back Obs.
☉ — 27.			22 25 $\frac{1}{2}$	23 48 $\frac{1}{2}$ U.	119 11 55	18 25 $\frac{1}{2}$	169 31 $\frac{1}{2}$	72 $\frac{1}{2}$	4	{ ☉ and ☉ : ☉ and ☉ :
☉ — 28.	7	37 38	16 40	38 57 $\frac{1}{2}$ U.	107 13 53	18 27	170 3	70 $\frac{1}{2}$	8	{ ☉ and ☉ : Dol. Q.

ASTRONOMICAL OBSERVATIONS

1774	Time by Watch &		Altitude of the ☉ & L. L.	Moon's Altitude.	Distance Moon's L. from Sun's or Star	Latitude of the Ship S	Longitude East of Greenwich	Thermom.	No. of Obs.	Objects
	H	M								
14 July 28	7 45	28	18 19	37 21 U	107 11 43	18 27	170 13	70 $\frac{1}{2}$	8	{ ☉ and ☉ Ramsf Q
5 — 30	7 40	48	17 10 $\frac{1}{2}$	51 37 U	83 53 59	18 23	168 45 $\frac{1}{2}$	73 $\frac{1}{2}$	6	{ ☉ and ☉ Dol Q
	7 46	45	18 26 $\frac{1}{2}$	50 43 $\frac{1}{2}$ U	83 54 14	18 23	170 14 $\frac{1}{2}$	73 $\frac{1}{2}$	3	{ ☉ and ☉ Ramsf Q
	7 59	22	21 1 $\frac{1}{2}$	48 39 $\frac{1}{2}$ U	83 51 14	18 23	169 43	73 $\frac{1}{2}$	8	{ ☉ and ☉ Ramsf Q
	9 56	20	42 46 $\frac{1}{2}$	25 53 $\frac{1}{2}$ U	83 14 8	18 22	168 38	76	6	{ ☉ and ☉ Dol Q
0 — 31	8 37	10	28 32 $\frac{1}{2}$	47 56 $\frac{1}{2}$ U	72 25 51	18 24 $\frac{1}{2}$	168 41 $\frac{1}{2}$	75 $\frac{1}{2}$	8	{ ☉ and ☉ Dol Q
	8 42	55	29 39 $\frac{1}{2}$	47 5 $\frac{1}{2}$ U	72 26 8	18 24 $\frac{1}{2}$	169 81 $\frac{1}{2}$	75 $\frac{1}{2}$	8	{ ☉ and ☉ Ramsf Q
	11 20	15	52 2 $\frac{1}{2}$	16 49 $\frac{1}{2}$ U	71 36 55	18 30 $\frac{1}{2}$	169 43	74	3	{ ☉ and ☉ Ramsf Q
	11 23	6 $\frac{1}{2}$	53 13 $\frac{1}{2}$	16 15 U	71 34 33	18 30 $\frac{1}{2}$	169 2 $\frac{1}{2}$	74	3	{ ☉ and ☉ Dol Q
<p>The disagreement in the results of Observations made this day and the day before, with different Quadrants, is extraordinary indeed I not is it the first time that it has happened I was determined <i>now</i>, if possible, to find out the cause of it; the fineness of the weather, the stillness of the ship, and every other circumstance whatsoever conspiring to give me an advantageous opportunity Accordingly, before the two last Observations of each day, the Quadrants were examined and adjusted in every particular, with the utmost care, and I am as certain as it is possible to be, that there was nothing amiss in either of them</p>										
3 Aug. 1	8 51	25 $\frac{1}{2}$	31 3	50 14 $\frac{1}{2}$ U	61 18 47	18 45 $\frac{1}{2}$	168 50 $\frac{1}{2}$	76	8	{ ☉ and ☉ Dol Q
	8 58	4	32 19 $\frac{1}{2}$	49 25 $\frac{1}{2}$ U	61 18 17	18 45	169 24 $\frac{1}{2}$	76	8	{ ☉ and ☉ Ramsf Q
8 — 2	8 42	38	29 52	52 30 $\frac{1}{2}$ L.	50 21 34	18 38	169 10 $\frac{1}{2}$	73	8	{ ☉ and ☉ Dol Q
	8 51	40	31 36 $\frac{1}{2}$	52 2 $\frac{1}{2}$ L	50 20 12	18 38	169 26 $\frac{1}{2}$	73	8	{ ☉ and ☉ Ramsf Q
8 — 3	5 35	0	45 54 $\frac{1}{2}$	25 52 $\frac{1}{2}$ L	24 19 17 $\frac{1}{2}$	18 43 $\frac{1}{2}$	168 46 $\frac{1}{2}$	70 $\frac{1}{2}$	6	{ ☉ and Al debaran
	8 10	35	23 24 $\frac{1}{2}$	49 34 $\frac{1}{2}$ L	39 31 4	18 43 $\frac{1}{2}$	169 8 $\frac{1}{2}$	74 $\frac{1}{2}$	6	{ ☉ and ☉ Dol Q
	8 18	10	24 57 $\frac{1}{2}$	50 5 $\frac{1}{2}$ L	39 29 22	18 43 $\frac{1}{2}$	169 22 $\frac{1}{2}$	74 $\frac{1}{2}$	6	{ ☉ and ☉ Ramsf Q
0 — 21	21 54	29	38 55 $\frac{1}{2}$	62 1 $\frac{1}{2}$ T	79 40 45 $\frac{1}{2}$	19 41	170 5 $\frac{1}{2}$	69 $\frac{1}{2}$	6	{ ☉ and An tares
11 — 25	3 42	7	41 31 $\frac{1}{2}$ T	67 53 $\frac{1}{2}$ L.	41 59 11 $\frac{1}{2}$	15 2	166 44 $\frac{1}{2}$		8	{ ☉ and Al debaran

1774.	Time by Watch K.	Altitude of the ☉'s L. L.	Moon's Altitude.	Distance of ☉'s L. from Sun's or Star.	Latitude of the Ship S.	Longitude East of Greenwich.	Thermom.	No. of Obs.	Objects.
	H	°	°	°	°	°			
4 Aug. 25.	7 52 49	21 39 $\frac{1}{2}$		126 8 35	15 6 $\frac{1}{2}$		76 $\frac{1}{2}$	6	☉ and ☉ : Back Obs.
2 — 26.	4 15 14	48 24 T.	64 35 $\frac{1}{2}$ L.	28 54 45 $\frac{1}{2}$	14 47 $\frac{1}{2}$	167 19 $\frac{1}{2}$	74	8	☉ and Al- debaran.
	4 28 50	26 51 $\frac{1}{2}$ T.	64 14 $\frac{1}{2}$ L.	52 7 5 $\frac{1}{2}$	14 47 $\frac{1}{2}$	166 33 $\frac{1}{2}$	74	8	☉ and α Pegasi.
	7 25 12	15 24 $\frac{1}{2}$ T.	37 22 $\frac{1}{2}$ T.	114 28 48	14 45	167 20 $\frac{1}{2}$	74 $\frac{1}{2}$	10	☉ and ☉ .
5 — 27.	4 47 29	12 9 $\frac{1}{2}$ T.	61 21 $\frac{1}{2}$ L.	60 32 6 $\frac{1}{2}$	14 47	166 31 $\frac{1}{2}$	74 $\frac{1}{2}$	6	☉ and Pol- lux.
	4 57 57	19 43 $\frac{1}{2}$ T.	61 28 $\frac{1}{2}$ L.	63 42 58 $\frac{1}{2}$	14 47	167 44 $\frac{1}{2}$	74 $\frac{1}{2}$	6	☉ and α Pegasi.
	7 43 11	19 22 $\frac{1}{2}$	41 30 $\frac{1}{2}$ U.	102 52 52	14 47 $\frac{1}{2}$	167 12 $\frac{1}{2}$	78 $\frac{1}{2}$	6	☉ and ☉ : Dol. Q.
	7 49 39	20 52	40 17 $\frac{1}{2}$ U.	102 51 11	14 47 $\frac{1}{2}$	167 21 $\frac{1}{2}$	78 $\frac{1}{2}$	6	☉ and ☉ : Ramf. Q.
6 — 28.	7 50 37	21 7 $\frac{1}{2}$	47 8 $\frac{1}{2}$ U.	91 34 31	14 57 $\frac{1}{2}$	166 47 $\frac{1}{2}$	78	8	☉ and ☉ : Dol. Q.
	7 56 58 $\frac{1}{2}$	22 37 $\frac{1}{2}$	46 2 $\frac{1}{2}$ U.	91 33 5	14 57 $\frac{1}{2}$	166 51 $\frac{1}{2}$	78	8	☉ and ☉ : Ramf. Q.
7 — 29.	10 48 18	58 8 $\frac{1}{2}$	20 39 $\frac{1}{2}$ U.	79 37 2 $\frac{1}{2}$		165 44 $\frac{1}{2}$	79	6	☉ and ☉ : Dol. Q.
	10 55 9	59 11	19 12 $\frac{1}{2}$ U.	79 35 43 $\frac{1}{2}$		166 26 $\frac{1}{2}$	79	6	☉ and ☉ : Ramf. Q.
8 — 30.	4 36 56	52 42 $\frac{1}{2}$	36 57 T.	20 7 22 $\frac{1}{2}$	15 44	167 12 $\frac{1}{2}$	75 $\frac{1}{2}$	6	☉ and Al- debaran.
	11 33 47	63 53 $\frac{1}{2}$	20 18 $\frac{1}{2}$ U.	68 26 3 $\frac{1}{2}$		166 23	77	3	☉ and ☉ : Dol. Q.
	11 45 8	64 38 $\frac{1}{2}$	18 55 U.	68 22 53 $\frac{1}{2}$		166 50 $\frac{1}{2}$	77	1	☉ and ☉ : Ramf. Q.
9 — 31.	4 46 33	53 56 $\frac{1}{2}$	29 15 $\frac{1}{2}$ L.	32 3 26 $\frac{1}{2}$		166 33		7	☉ and Al- debaran.
	9 52 17	47 30 $\frac{1}{2}$	47 22 $\frac{1}{2}$ U.	57 58 45	16 27 $\frac{1}{2}$	165 45	76 $\frac{1}{2}$	6	☉ and ☉ : Dol. Q.
	9 57 43	48 33 $\frac{1}{2}$	46 35 $\frac{1}{2}$ U.	57 58 32	16 27 $\frac{1}{2}$	166 29 $\frac{1}{2}$	76 $\frac{1}{2}$	6	☉ and ☉ : Ramf. Q.
	10 2 33	49 31 $\frac{1}{2}$	45 55 $\frac{1}{2}$ U.	57 57 0	16 27 $\frac{1}{2}$	166 11 $\frac{1}{2}$	76 $\frac{1}{2}$	6	☉ and ☉ : Dol. Q.
10 Sept. 13.	15 13 13	40 40 $\frac{1}{2}$	48 7 $\frac{1}{2}$ U.	89 15 32	19 47	164 13 $\frac{1}{2}$	77	8	☉ and ☉ : ditto.
	15 20 24 $\frac{1}{2}$	39 6 $\frac{1}{2}$	49 48 $\frac{1}{2}$ U.	89 18 50	19 47	164 0 $\frac{1}{2}$	77	10	☉ and ☉ : Ramf. Q.
11 — 14.	16 26 58	24 44 $\frac{1}{2}$	51 26 $\frac{1}{2}$ U.	103 5 58	19 18	163 46	79	6	☉ and ☉ : Dol. Q.
	16 33 6	23 21 $\frac{1}{2}$	52 52 $\frac{1}{2}$ U.	103 9 15	19 18	163 24 $\frac{1}{2}$	79	3	☉ and ☉ : Ramf. Q.

1774.	Time by Watch K	Altitude of the ☉ L L	Moon's Altitude	Distance of the ☉ & L. from ☉ or *	Latitude of the Ship S	Longitude East of Greenwich	Baromet	No of Obs	Object
H									
24 Sept 15	15 20 11	39 48 $\frac{1}{2}$	23 1 $\frac{1}{2}$ U	116 4 46	19 18	163 33 $\frac{1}{2}$	83	4	☉ and ☉ Dol Q
	15 25 37	38 36 $\frac{1}{2}$	24 13 $\frac{1}{2}$ U	116 6 11	19 17 $\frac{1}{2}$	163 53 $\frac{1}{2}$	83	7	☉ and ☉ Rams Q
	15 30 48	37 27 $\frac{1}{2}$	25 23 $\frac{1}{2}$ U	116 9 2	19 17 $\frac{1}{2}$	163 43 $\frac{1}{2}$	83	5	☉ and ☉ Dol Q
— 19	0 42 39	15 47 $\frac{1}{2}$	68 44 L	57 6 25 $\frac{1}{2}$		166 6 $\frac{1}{2}$	71 $\frac{1}{2}$	6	☉ and ☉ Aquila
	1 3 48	43 12 $\frac{1}{2}$ T	65 8 $\frac{1}{2}$ L	45 20 47 $\frac{1}{2}$	20 25 $\frac{1}{2}$	165 33 $\frac{1}{2}$	72 $\frac{1}{2}$	6	☉ and ☉ Arietis
— 20	0 40 52	14 54 $\frac{1}{2}$	68 47 $\frac{1}{2}$ L	69 51 9 $\frac{1}{2}$		166 20 $\frac{1}{2}$	71 $\frac{1}{2}$	6	☉ and ☉ Aquila
	1 0 6	24 24	68 3 L	62 4 27 $\frac{1}{2}$		165 37	71 $\frac{1}{2}$	6	☉ and Al debaran
— 21	22 15 42	44 36 $\frac{1}{2}$	38 3 $\frac{1}{2}$ L	81 20 18 $\frac{1}{2}$		166 15 $\frac{1}{2}$	71 $\frac{1}{2}$	6	☉ and ☉ Aquila
	4 39 39	14 22 $\frac{1}{2}$	36 12 $\frac{1}{2}$ U	50 52 43 $\frac{1}{2}$		166 29 $\frac{1}{2}$	71 $\frac{1}{2}$	6	☉ and ☉ mulhaut
	4 52 29	52 38 $\frac{1}{2}$	33 30 $\frac{1}{2}$ U	47 7 25 $\frac{1}{2}$		166 46 $\frac{1}{2}$	71 $\frac{1}{2}$	6	☉ and Al debaran
— 22	2 10 29	39 2	58 52 $\frac{1}{2}$ L	34 52 1 $\frac{1}{2}$		166 59 $\frac{1}{2}$	70	4	☉ and Al debaran
	2 38 19 $\frac{1}{2}$	43 22 $\frac{1}{2}$	57 57 $\frac{1}{2}$ L	34 43 46 $\frac{1}{2}$		167 10 $\frac{1}{2}$	70	6	☉ and do cloudy
	2 54 24	35 33	56 58 L	61 32 1 $\frac{1}{2}$			70	1	☉ and Fo mulhaut
— 23	2 4 36	38 54 $\frac{1}{2}$	53 38 $\frac{1}{2}$ L	22 2 3 $\frac{1}{2}$		168 1 $\frac{1}{2}$	71	6	☉ and Al debaran
	2 17 23 $\frac{1}{2}$	42 30 $\frac{1}{2}$	54 17 $\frac{1}{2}$ L	73 31 35 $\frac{1}{2}$		168 17	71	6	☉ and Fo mulhaut
	21 37 $\frac{1}{2}$	14 9 $\frac{1}{2}$ U	133 50 39	21 57 $\frac{1}{2}$	167 8 $\frac{1}{2}$		6	☉ and ☉ Back Obs	
— 24	23 21 12	40 25 $\frac{1}{2}$	17 31 $\frac{1}{2}$ L	69 0 43 $\frac{1}{2}$		167 53 $\frac{1}{2}$	72	10	☉ and ☉ gnū Hazy
— 28	9 6 8	42 16	38 27 $\frac{1}{2}$ U	77 51 28 $\frac{1}{2}$		167 48 $\frac{1}{2}$	78	6	☉ and ☉ Dol Q
	9 11 47 $\frac{1}{2}$	43 28	37 38 $\frac{1}{2}$ U	77 49 50 $\frac{1}{2}$		167 47 $\frac{1}{2}$	73	6	☉ and ☉ Rams Q
— 29	3 56 13 $\frac{1}{2}$	51 34 $\frac{1}{2}$	22 37 $\frac{1}{2}$ L	51 21 41 $\frac{1}{2}$		167 17 $\frac{1}{2}$	69 $\frac{1}{2}$	6	☉ and Al debaran
	7 41 35	23 23 $\frac{1}{2}$	50 30 U	67 8 45 $\frac{1}{2}$		167 13 $\frac{1}{2}$	72	6	☉ and ☉ Dol Q
	7 47 38	24 46 $\frac{1}{2}$	50 28 $\frac{1}{2}$ U	67 8 3 $\frac{1}{2}$		167 36	72	6	☉ and ☉ Rams Q

1774.	Time by Watch K.		Altitude of the ☉'s L. L.	Moon's Altitude.	Distance of ☉'s L. from Sun's or Star.	Latitude of the Ship S.	Longitude East of Greenwich.	Thermom.	No. of Obs.	Objects.
	H	M								
4 Sept. 29.	11	15 59	66 52 $\frac{1}{2}$	25 29 $\frac{1}{2}$ U.	66 10 10 +		167 35 $\frac{1}{2}$	73	5	☉ and ☉: Bird's Q.
	11	29 54	68 22 $\frac{1}{2}$	22 47 $\frac{1}{2}$ U.	66 3 25 +		167 10 $\frac{1}{2}$	73	6	☉ and ☉: Mr. Smith's Q.
	11	35 1	68 49 $\frac{1}{2}$	22 48 $\frac{1}{2}$ U.	66 2 13 +		167 17 $\frac{1}{2}$	73	6	☉ and ☉: Mr. Clarke's.
5 Oct. 1.	7	12 36	18 52	44 36 L.	44 40 59	23 17 $\frac{1}{2}$	169 32 $\frac{1}{2}$	66	6	☉ and ☉: Dol. Q.
	7	21 36	20 53 $\frac{1}{2}$	45 52 $\frac{1}{2}$ L.	44 39 24.	23 17 $\frac{1}{2}$	169 58 $\frac{1}{2}$	66	6	☉ and ☉: Ramsf. Q.
5 — 8.	19	0 38	52 44	20 39 $\frac{1}{2}$ L.	70 0 38 +		170 52	63 $\frac{1}{2}$	10	☉ and ☉: Aquilæ.
6 — 9.	14	42 50	44 22 $\frac{3}{4}$	76 8 $\frac{1}{2}$ U.	45 28 31	28 55	168 51 $\frac{1}{2}$	62 $\frac{1}{2}$	6	☉ and ☉: Dol. Q.
	14	49 26	42 55 $\frac{1}{2}$	76 34 $\frac{1}{2}$ U.	45 30 38	28 55	168 48	62 $\frac{1}{2}$	6	☉ and ☉: Ramsf. Q.
	15	16 15 $\frac{1}{2}$	37 27	75 43 $\frac{1}{2}$ U.	45 39 48	28 55	168 41 $\frac{1}{2}$	62 $\frac{1}{2}$	6	☉ and ☉: Bird's Q.
	11	7 15 $\frac{1}{2}$	64 13 $\frac{1}{2}$	24 20 U.	57 26 36 +		168 21 $\frac{1}{2}$	63 $\frac{1}{2}$	1	☉ and ☉: Dol. Q.
7 — 10.	16	30 18	22 36 $\frac{1}{2}$	76 41 $\frac{1}{2}$ L.	59 29 37	29 0	168 6 $\frac{1}{2}$		8	☉ and ☉: Ramsf. Q.
8 — 11.	14	51 34	43 48 $\frac{1}{2}$	59 36 $\frac{1}{2}$ U.	71 24 0	29 29	167 37 $\frac{1}{2}$	64 $\frac{1}{2}$	6	☉ and ☉: Dol. Q.
	14	59 2	42 14 $\frac{1}{2}$	61 5 $\frac{1}{2}$ U.	72 26 45	29 29	167 35 $\frac{1}{2}$	64 $\frac{1}{2}$	8	☉ and ☉: Ramsf. Q.
9 — 12.	15	16 15	38 31 $\frac{1}{2}$	51 58 $\frac{1}{2}$ U.	85 54 47	31 17 $\frac{1}{2}$	167 36	65 $\frac{1}{2}$	8	☉ and ☉: Dol. Q.
	15	25 54	36 26 $\frac{1}{2}$	53 56 $\frac{1}{2}$ U.	85 58 34	31 17 $\frac{1}{2}$	167 29	65 $\frac{1}{2}$	8	☉ and ☉: Ramsf. Q.
11 — 13.	15	46 15	31 34	45 59 U.	99 21 50	33 4 $\frac{1}{2}$	166 18 $\frac{1}{2}$	63	6	☉ and ☉: Dol. Q.
	15	52 37	30 14 $\frac{1}{2}$	47 14 $\frac{1}{2}$ U.	99 24 46	33 4 $\frac{1}{2}$	168 8 $\frac{1}{2}$	63	6	☉ and ☉: Ramsf. Q.
	19	6 19	36 36 $\frac{1}{2}$	73 34 $\frac{1}{2}$ U.	54 49 33 +		168 50 $\frac{1}{2}$	62	6	☉ and ☉: Antares.
	19	22 40	32 51 $\frac{1}{2}$	72 28 $\frac{1}{2}$ U.	50 36 8 +		168 42 $\frac{1}{2}$	62	5	☉ and ☉: Pegasi.
12 — 14	16	31 26	21 17 $\frac{1}{2}$	43 16 $\frac{1}{2}$ U.	112 48 7	34 21	169 29	62 $\frac{1}{2}$	6	☉ and ☉: Dol. Q.
	16	36 14	20 16 $\frac{1}{2}$	44 12 U.	112 49 25	34 21	169 43 $\frac{1}{2}$	62 $\frac{1}{2}$	6	☉ and ☉: Ramsf. Q.
	19	46 20	26 55 $\frac{1}{2}$	69 35 $\frac{1}{2}$ U.	69 0 34 +		170 17	61 $\frac{1}{2}$	6	☉ and ☉: Antares: cloudy.
	19	54 32	36 36 $\frac{1}{2}$	69 27 $\frac{1}{2}$ U.	37 59 37 +		168 57 $\frac{1}{2}$	61 $\frac{1}{2}$	4	☉ and ☉: Pegasi: cloudy.

1774	Time by Watch K	Altitude of the ☉ L L	Moon's Altitude	Distance of the Moon's L. from Sun's or Star	Latitude of the Ship S	Longitude Lat of Greenwich	Thermom	No. of Obs	Objects
	H								
2 Nov 11	14 18 8 ¹	47 9 ¹ ₁₇	31 35 ¹ U	94 27 10	42 22 ¹ ₈	174 51 ¹ ₈	62	6	☉ and ☉ Dol Q
	14 23 31	46 12 ¹	32 30 ⁴ ₇ U	94 29 10	42 22 ¹ ₈	175 3 ¹ ₈	62	7	☉ and ☉ Ramf Q
5 — 12	15 45 3	31 14 ¹ ₁₇	34 48 ¹ ₁₇ U	107 48 49	43 27	175 42 ¹ ₈	64	6	☉ and ☉ Dol Q
	15 50 35	30 13 ¹ ₁₀	35 41 ¹ ₇ U	107 50 51	43 27	175 50 ¹ ₈	64	6	☉ and ☉ Ramf Q
8 Dec 6	6 8 16	58 33 ¹ ₈	33 44 U	45 9 48 +		251 57 ¹ ₁₇	46	6	☉ and ☉ Dol Q
	6 14 9	58 43 ¹ ₁₇	34 33 ¹ ₁₇ U	45 12 31 +		251 32	46	6	☉ and ☉ Ramf Q
8 — 7	10 4 26	40 13 ¹ ₇	53 17 ¹ ₈ L	46 53 12	53 20 ¹ ₈	252 28 ¹ ₈	48	6	☉ and ☉ Dol Q
	10 7 59	39 11 ¹	53 10 L	46 55 0	53 20 ¹ ₈	252 24 ¹ ₁₇	48	2	☉ and ☉ Ramf Q
	6 25 25	58 59 ¹ ₁₇	27 23 ¹ ₇ U	58 52 48 +		254 32	47	6	☉ and ☉ Dol Q
10 — 12	8 43 40	43 46	12 38 ¹ ₈ U	110 33 15	53 22 ¹ ₈	267 45 ¹ ₈	47	8	☉ and ☉ ditto
	8 52 48 ¹	42 27 ¹	13 51 ¹ ₈ U	110 37 7	53 22 ¹ ₈	268 3 ¹ ₁₇	47	8	☉ and ☉ Ramf Q
		29 23	24 25 ¹ ₈ U	111 15 15	53 22 ¹ ₁₇	268 14 ¹ ₈	46 ¹ ₁₇	4	☉ and ☉ Dol Q
	15 41 46	19 20 ¹ ₁₇ T	24 57 ¹ ₈ L	52 43 57 +	53 22	268 19	43	10	☉ and Al debaran.
8 — 13	15 46 22	19 53 T	23 58 ¹ ₈ L	39 54 31 +	53 24	271 11 ¹ ₁₇	43	6	☉ and ditto
1775.									
2 Jan 6	6 53 56	38 29 ¹	40 25 ¹ ₁₇ U	52 30 15 +		305 34 ¹ ₈	43	7	☉ and ☉ Ramf Q
	7 2 46 ¹	37 25 ¹ ₈	40 22 ¹ ₇ U	52 33 10 +		305 58 ¹ ₈	43	8	☉ and ☉ Dol Q
5 — 7	5 49 38 ¹	46 15	33 31 ¹ ₁₇ U	65 10 50 +		306 55 ¹ ₁₇	43	7	☉ and ☉ Dol Q
	5 57 22	45 23 ¹ ₇	33 35 ¹ ₁₇ U	65 15 15 +		306 23	43	6	☉ and ☉ Ramf Q
0 — 8	5 38 52	47 49 ¹ ₁₇	25 14 ¹ ₈ U.	77 47 48 +		308 2 ¹ ₁₇	49	6	☉ and ☉ Dol Q
	5 44 25	47 8 ¹ ₁₇	25 46 ¹ ₈ U	77 50 34 +		307 49 ¹ ₈	49	6	☉ and ☉ Ramf Q
	13 4 23	18 38 ¹ ₈	11 58 ¹ ₁₇ U	57 48 4 +		307 58 ¹ ₁₇	45	7	☉ and Al debaran

1775.	Time by Watch K.	Altitude of the ☉'s L. L.	Moon's Altitude.	Distance of the ☉'s L. from ☉'s or Star.	Latitude of the Ship S.	Longitude East of Greenwich.	Thermom.	No. of Obs.	Object.
	H	°	°	°	°	°			
4 Jan. 25.		16 52 $\frac{1}{2}$	42 55 $\frac{1}{2}$ L.	82 54 27	57 7	329 13	43	6	☉ and ☉ : Dol. Q. Hazy.
	23 17 53	40 47 $\frac{1}{2}$	32 54 $\frac{1}{2}$ U.	81 40 24 +		329 15 $\frac{1}{2}$	42 $\frac{1}{2}$	4	☉ and ☉ : ditto, and very hazy.
	23 32 2	42 17 $\frac{9}{10}$	31 25 $\frac{1}{2}$ U.	81 34 8 +		329 12	42 $\frac{1}{2}$	4	☉ and ☉ : Ramf. Q. very hazy.
Repeated a day, and rejected 360 ^b of Longitude.									
8 Feb. 17.	9 44 14 $\frac{1}{2}$	19 31 $\frac{1}{2}$ T.	17 30 $\frac{1}{2}$ L.	28 27 10 +	54 23 $\frac{1}{2}$	8 23 $\frac{1}{2}$	33 $\frac{1}{2}$	5	☉ and Re- gulus : Dol. Q.
	9 54 51	20 8 $\frac{1}{2}$ T.	18 45 $\frac{1}{2}$ L.	28 29 52 +	54 23 $\frac{1}{2}$	9 17 $\frac{1}{2}$	33 $\frac{1}{2}$	5	☉ and Re- gulus : Ramf. Q.
	10 5 18	20 57 $\frac{1}{2}$ T.	19 56 $\frac{1}{2}$ L.	25 55 43 +	54 23 $\frac{1}{2}$	9 40 $\frac{1}{2}$	33 $\frac{1}{2}$	5	☉ and Spica ☿ : Ramf. Q.
	10 13 43	22 0 T.	20 51 $\frac{1}{2}$ L.	25 51 56 +	54 23 $\frac{1}{2}$	9 40 $\frac{1}{2}$	33 $\frac{1}{2}$	6	☉ and Spica ☿ : Dol. Q.
8 — 21.	17 49 43	17 54 $\frac{1}{2}$	40 28 U.	102 40 9 +		21 51 $\frac{1}{2}$	35	1	☉ and ☉ : Dol. Q. very cloudy.
	18 16 19	21 43	37 44 U.	102 28 39	55 4	21 22 $\frac{1}{2}$	35	3	☉ and ☉ : Dol. Q. very cloudy.
	18 21 48 $\frac{1}{2}$	22 24 $\frac{9}{10}$	37 7 U.	102 26 50	55 4	21 27 $\frac{1}{2}$	35	2	☉ and ☉ : Ramf. Q. very cloudy.
14 Feb. 23.	19 22 52	43 23 $\frac{1}{2}$	45 36 $\frac{1}{2}$ U.	76 15 51	53 5 $\frac{1}{2}$	25 50	38	8	☉ and ☉ : cloudy.
8 — 24.	19 39 27 $\frac{1}{2}$	37 36 $\frac{1}{2}$	51 42 $\frac{1}{2}$ U.	62 47 25 +		28 21	38 $\frac{1}{2}$	6	☉ and ☉ : Dol. Q. hazy.
	19 49 39	39 52 $\frac{1}{2}$	50 37 $\frac{1}{2}$ U.	62 41 18 +		27 32 $\frac{1}{2}$	38 $\frac{1}{2}$	5	☉ and ☉ : Ramf. Q. hazy.
5 — 25.	19 28 31 $\frac{1}{2}$	37 17 $\frac{1}{2}$	57 43 $\frac{1}{2}$ U.	49 8 20	49 32 $\frac{1}{2}$	29 25 $\frac{1}{2}$	42	6	☉ and ☉ : Dol. Q. cloudy.
	19 45 24	39 24 $\frac{1}{2}$	56 39 $\frac{1}{2}$ U.	49 1 57	49 31 $\frac{1}{2}$	29 38 $\frac{1}{2}$	42	6	☉ and ☉ : Ramf. Q. cloudy.
7. March 4.	1 45 5 $\frac{1}{2}$	30 16 $\frac{1}{2}$		34 59 58	43 49 $\frac{1}{2}$		57	3	☉ and ☉ .

1775	Time by Watch K.	Altitude of the ☉ L L	Moon's Altitude	Distance of the ☉ & L. from ☉ or *	Latitude of the Ship S	Longitude East of Greenwich	Thermom.	No. of Obs.	Object
	H								
March 6	0 58 42	38 51 $\frac{1}{2}$	33 24 U	59 38 45 +		27 10 $\frac{1}{2}$	54	6	☉ and ☉ Dol
	1 7 35	37 29	33 53 U	59 42 15 +		26 54 $\frac{1}{2}$	54	2	☉ and ☉ Rams
8 — 7	1 28 27 $\frac{1}{2}$	34 28 $\frac{1}{2}$	29 33 $\frac{1}{2}$ U	71 37 8	41 48 $\frac{1}{2}$	26 14 $\frac{1}{2}$	60 $\frac{1}{2}$	2	☉ and ☉
14 — 9	6 0 31		26 13 $\frac{1}{2}$ L	61 53 31 +		25 32 $\frac{1}{2}$	55	4	☉ and Re gulus
8 — 10	1 55 25	31 5 $\frac{1}{2}$	11 52 $\frac{1}{2}$ U	105 19 35	40 50	23 40 $\frac{1}{2}$	52 $\frac{1}{2}$	5	☉ and Dol
	1 58 43	30 30 $\frac{1}{2}$	12 20 $\frac{1}{2}$ U	105 21 15	40 50		52 $\frac{1}{2}$	2	☉ and Rams
	2 26 6	25 42 $\frac{1}{2}$	16 3 $\frac{1}{2}$ U	105 30 51	40 49 $\frac{1}{2}$	23 47	52 $\frac{1}{2}$	10	☉ and ditto
	6 15 24		28 53 $\frac{1}{2}$ L	30 15 50	40 45 $\frac{1}{2}$		51	1	☉ and Al debaran Cloudy
14 — 16	7 54 14	27 31 $\frac{1}{2}$	36 11 $\frac{1}{2}$ L	30 48 45 +		22 18 $\frac{1}{2}$	67	6	☉ and Spi ca
	8 9 18	41 14 $\frac{1}{2}$	38 26 $\frac{1}{2}$ L	23 36 52 +		22 12 $\frac{1}{2}$	67	6	☉ and Re gulus
2 — 17	8 50 54	39 1 $\frac{1}{2}$	40 31 $\frac{1}{2}$ L	17 41 35 +		20 1 $\frac{1}{2}$	67	6	☉ and Spi ca
	8 57 43 $\frac{1}{2}$	42 2 $\frac{1}{2}$	42 33 $\frac{1}{2}$ L	37 10 30 +		21 16	67	2	☉ and Re gulus
8 May 3		20 4 $\frac{1}{2}$	42 50 $\frac{1}{2}$ U	44 11 4	26 51	6 19 $\frac{1}{2}$	68 $\frac{1}{2}$	8	☉ and ☉
	6 22 15	49 37 $\frac{1}{2}$	19 55 $\frac{1}{2}$ L	58 34 25 +		7 31	67 $\frac{1}{2}$	8	☉ and Re gulus
14 — 4	0 30 20	45 30 $\frac{1}{2}$	26 39 $\frac{1}{2}$ U	54 40 13 +		5 52 $\frac{1}{2}$	67	6	☉ and ☉
	2 16 56	32 33 $\frac{1}{2}$	40 33 U	55 8 40 +		5 59 $\frac{1}{2}$	67 $\frac{1}{2}$	10	☉ and ☉
	6 10 0	49 26 $\frac{1}{2}$	30 44 $\frac{1}{2}$ L	46 28 21 +		6 50	67	7	☉ and Re gulus
0 — 7		25 56 $\frac{1}{2}$	33 26 $\frac{1}{2}$ U	88 20 58	23 16	3 19 $\frac{1}{2}$	66 $\frac{1}{2}$	8	☉ and ☉
	4 32 25 $\frac{1}{2}$	10 47	45 13 U	88 40 7 +		3 10 $\frac{1}{2}$	66 $\frac{1}{2}$	8	☉ and ☉
	6 17 44	33 28 $\frac{1}{2}$	51 31 $\frac{1}{2}$ L	64 19 30 +		3 11 $\frac{1}{2}$	66	8	☉ and Spi ca
8 — 8	3 30 40 $\frac{1}{2}$	24 57 $\frac{1}{2}$	28 56 $\frac{1}{2}$ U	99 26 10 +		1 50 $\frac{1}{2}$	67 $\frac{1}{2}$	8	☉ and ☉
	6 34 35 $\frac{1}{2}$	36 47 $\frac{1}{2}$	55 50 $\frac{1}{2}$ U	52 14 57 +		1 54	66 $\frac{1}{2}$	9	☉ and Spi ca
8 — 9	3 50 44 $\frac{1}{2}$	22 18 $\frac{1}{2}$	24 47 $\frac{1}{2}$ U	110 43 45	20 34 $\frac{1}{2}$	West 0 18 East.	67 $\frac{1}{2}$	8	☉ and ☉
	6 35 28 $\frac{1}{2}$	36 39 $\frac{1}{2}$	55 50 $\frac{1}{2}$ U	40 7 2 +		0 37	68 $\frac{1}{2}$	10	☉ and Spi ca
14 — 11	5 15 39	7 33 $\frac{1}{2}$	25 14 $\frac{1}{2}$ U	134 15 48 +		West. 2 54	69 $\frac{1}{2}$	10	☉ and ☉ Back Obs

1775.	Time by Watch K.	Altitude of the ☉ L. L.	Moon's Altitude.	Distance Moon's L. from Sun's or Star.	Latitude of the Ship S.	Longitude West of Greenwich.	Therm.	No. of Obs.	Object.
	H	°	°	°	°	°			
4 May 11.	7 33 26	57 11 $\frac{1}{2}$	55 32 $\frac{1}{2}$ U.	39 43 26 †		2 5 $\frac{1}{2}$	69	6	☉ and Re- gulus.
	7 41 21	51 50 $\frac{1}{2}$	57 12 $\frac{1}{2}$ U.	15 20 4 †		1 44 $\frac{1}{2}$	69	6	☉ and Spica ♌.
	7 50 5 $\frac{1}{2}$	15 11 $\frac{1}{2}$	58 47 $\frac{1}{2}$ U.	60 35 46 †		2 11 $\frac{1}{2}$	69	6	☉ and An- tares.
8 ——— 12.	7 36 50	57 12 $\frac{1}{2}$	47 54 $\frac{1}{2}$ U.	52 55 24 †		2 14	69	6	☉ and Re- gulus.
	7 47 57	15 1 $\frac{1}{2}$	50 25 $\frac{1}{2}$ U.	47 43 4 †		2 27 $\frac{1}{2}$	69	6	☉ and An- tares.
☉ ——— 14.	10 20 59	83 22 $\frac{1}{2}$	63 5 $\frac{1}{2}$ L.	28 28 30 †		4 20	70 $\frac{1}{2}$	6	☉ and Spica ♌.
☉ ——— 21.	21 54 41	36 45 $\frac{1}{2}$	48 45 $\frac{1}{2}$ U.	85 36 58 †		7 10 $\frac{1}{2}$	70	6	☉ and ☉: very cloudy.
☉ ——— 22.	21 45 30	34 19 $\frac{1}{2}$	63 17 $\frac{1}{2}$ U.	72 36 45	14 43	8 23 $\frac{1}{2}$	73 $\frac{1}{2}$	8	☉ and ☉: cloudy.
☉ ——— 23.	20 7 40 $\frac{1}{2}$	13 4 $\frac{1}{2}$	72 48 $\frac{1}{2}$ L.	60 12 5	13 45	9 43 $\frac{1}{2}$	72 $\frac{1}{2}$	10	☉ and ☉.
☉ ——— 24.	20 31 31	17 42 $\frac{1}{2}$	65 16 $\frac{1}{2}$ L.	47 26 8	12 6 $\frac{1}{2}$	11 21	72 $\frac{1}{2}$	10	☉ and ☉.
11 June 1.	3 40 56 $\frac{1}{2}$	43 45 $\frac{1}{2}$	63 12 $\frac{1}{2}$ L.	36 43 50 †		15 44 $\frac{1}{2}$	79	10	☉ and ☉.
	8 20 26	57 51 $\frac{1}{2}$	20 40 $\frac{1}{2}$ L.	37 36 32 †		15 2	78	3	☉ and Re- gulus.
☉ ——— 2.	3 44 47	44 36 $\frac{1}{2}$	60 51 $\frac{1}{2}$ U.	47 47 43 †		17 36 $\frac{1}{2}$	78 $\frac{1}{2}$	10	☉ and ☉.
	8 15 52	58 56 $\frac{1}{2}$	34 16 $\frac{1}{2}$ L.	25 39 32 †		17 11	77	6	☉ and Re- gulus.
☉ ——— 3.	3 41 54	46 51	52 47 $\frac{1}{2}$ U.	58 48 17 †		19 52 $\frac{1}{2}$	78 $\frac{1}{2}$	3	☉ and ☉.
	3 50 22 $\frac{1}{2}$	45 16 $\frac{1}{2}$	54 27 $\frac{1}{2}$ U.	58 49 0 †		19 44 $\frac{1}{2}$	78 $\frac{1}{2}$	5	☉ and ☉.
	8 28 42 $\frac{1}{2}$	67 11 $\frac{1}{2}$	44 43 $\frac{1}{2}$ L.	67 29 32 †		19 30 $\frac{1}{2}$	77	5	☉ and Spica ♌.
☉ ——— 4.	4 33 34	38 56 $\frac{1}{2}$	53 55 $\frac{1}{2}$ U.	69 58 39 †		21 29	79	8	☉ and ☉.
	8 33 35	67 0 $\frac{1}{2}$	56 11 $\frac{1}{2}$ L.	55 34 22 †		21 27 $\frac{1}{2}$	78	6	☉ and Spi- ca ♌.
☉ ——— 5.	4 17 24	44 3 $\frac{1}{2}$	40 3 $\frac{1}{2}$ U.	80 58 26 †		23 40	80	8	☉ and ☉.
	8 36 17 $\frac{1}{2}$	66 22 $\frac{1}{2}$	68 8 L.	43 34 46 †		23 18	79	8	☉ and Spi- ca ♌.
☉ ——— 6.	4 45 27	40 40 $\frac{1}{2}$	34 54 U.	92 19 4 †			81	4	☉ and ☉.
	4 51 53 $\frac{1}{2}$	39 21 $\frac{1}{2}$	36 27 $\frac{1}{2}$ U.	92 21 40 †		26 22 $\frac{1}{2}$	81	10	☉ and ☉.
	8 54 33	69 22 $\frac{1}{2}$	76 43 $\frac{1}{2}$ L.	31 23 20 †		25 49 $\frac{1}{2}$	79 $\frac{1}{2}$	6	☉ and Spi- ca ♌.
☉ ——— 7.		40 31 $\frac{1}{2}$	25 8 $\frac{1}{2}$ U.	103 47 6	4 51 $\frac{1}{2}$	28 8 $\frac{1}{2}$	81	6	☉ and ☉.
	5 0 46	39 11 $\frac{1}{2}$	26 44 $\frac{1}{2}$ U.	103 49 56 †		28 34	81	8	☉ and ☉.
	9 14 3	73 9 $\frac{1}{2}$	83 53 $\frac{1}{2}$ U.	19 11 27 †		27 3 $\frac{1}{2}$	81	5	☉ and Spi- ca ♌.
☉ ——— 8.	5 19 13	37 32 $\frac{1}{2}$	18 48 $\frac{1}{2}$ U.	115 38 27	3 45 $\frac{1}{2}$	29 31	81 $\frac{1}{2}$	10	☉ and ☉.
	9 20 50	27 35 $\frac{1}{2}$	77 26 $\frac{1}{2}$ U.	52 4 4 †		29 56 $\frac{1}{2}$	80	6	☉ and An- tares.

ASTRONOMICAL OBSERVATIONS

1775	Time by Watch K.		Altitude of the ☉'s L L	Moon's Altitude	Distance of the ☉ & L. from ☉ or *	Latitude of the Ship	Longitude West of Greenwich	Thermom.	No. of Obs.	Objects.
	H	M								
2 June 9	9	30 53	51 37 _T	65 59 _T U	61 51 7 +		31 33 _T	81 _T	7	☉ and Regulus
		9 57 33	34 32 _T	72 26 _T U	38 56 22 +		32 26 _T	81 _T	8	☉ and Antares
h — 10.	9	57 42	34 29 _T	59 28 _T U	25 56 12 +		32 7 _T	81	6	☉ and Antares
	10	7 57	80 57	61 53 _T U	22 51 40 +		32 18 _T	81	2	☉ and Spica ☉ cloudy
O — 11	12	13 10	59 14 T	72 5 _T U	37 24 28 +	North				
		12 26 54	25 32 _T T	73 27 _T U	62 27 10 +	0 40 _T	31 54 _T	80	8	☉ and Spica ☉
D — 12.	11	55 45	19 22 _T	56 16 _T U	50 24 18 +	0 40 _T	32 36	80	6	☉ and Aquilae.
	12	11 34	58 5 _T	59 13 _T U	51 49 0 +		31 48 _T	81	6	☉ and Aquilae
O — 18	21	9 30	13 41 _T	63 24 _T U	102 11 53 +		31 19 _T	81	4	☉ and Spica ☉
D — 19	21	32 47	18 51 _T	71 25 _T U	102 57 49	7 54	30 13 _T	79 _T	10	☉ and ☉
h — 20	21	25 46	16 8 _T	82 21 _T L	76 11 40	9 10 _T	31 6 _T	80 _T	7	☉ and ☉
h July 1	3	43 49	81 16 _T	55 56 _T U	40 35 38 +		32 31 _T	79 _T	10	☉ and ☉
	6	6 19	50 8 _T	76 54 _T U	41 12 54	27 21 _T	41 3 _T	76 _T	6	☉ and Dol Q
O — 2	5	38 29	56 33 _T	66 14 _T U	52 5 37	28 53	41 1 _T	76	10	☉ and Rams Q
D — 3	5	47 31	54 11 _T	57 28 _T U	63 12 15 +		41 2 _T	75 _T	10	☉ and ☉
h — 4	5	39 57	55 26 _T	45 23 _T U	74 22 39 +		40 11 _T	75	6	☉ and ☉
	6	1 24	50 47 _T	49 6 _T U	74 30 8 +		39 42 _T	75	6	☉ and Dol Q
	11	21 52	40 20	37 0 _T L	22 8 7 +		40 8 _T	75	8	☉ and ☉
h — 5	7	1 56	37 43 _T	47 51 _T U	86 15 13 +		39 37	74	6	☉ and Spica ☉
	11	16 23	29 12 _T	42 2 _T L	55 41 17 +		39 36	77	6	☉ and ☉
h — 6	5	49 18	52 53 _T	24 55 _T U	97 32 29	33 12 _T	39 28 _T	75	2	☉ and Antares
	11	17 46	16 21 _T	44 26 _T U	57 30 49 +		39 12 _T	76 _T	6	☉ and ☉
	11	28 30 _T	29 42 _T	43 14 _T U	43 6 18 +		38 58	75	6	☉ and Regulus
h — 7	6	24 39	45 20 _T	20 3 _T U	109 50 36 +		39 20	75	6	☉ and Antares
	11	6 48	28 20	45 49 _T U	39 31 52 +		39 9	78 _T	10	☉ and ☉
h — 8	7	9 19	36 13 _T	15 59 _T U	122 39 11	34 14 _T	39 19 _T	76 _T	6	☉ and Antares
							39 30 _T	79 _T	10	☉ and ☉ Back Obs

1775.	Time by Watch K.	Altitude of the ☉'s L. L.	Moon's Altitude.	Distance of ☉'s L. from Sun's or Star.	Latitude of the Ship N.	Longitude West of Greenwich.	Thermom.	No. of Obs.	Objects.
	H	"	"	"	"	"	"	"	"
4 July 19.		21 36	59 9 $\frac{1}{2}$ U.	81 1 21	39 9	26 16	72	10	☉ and ☉ : very cloudy.
4 — 20.		24 16 $\frac{1}{2}$	63 01 $\frac{1}{2}$ U.	68 54 56	39 24 $\frac{1}{2}$	24 54	70	8	☉ and ☉.
	23 49 20	54 26 $\frac{1}{2}$	48 19 $\frac{1}{2}$ U.	68 4 14 +		25 9 $\frac{1}{2}$	71	8	☉ and ☉.
5 — 22.	3 12 26 $\frac{1}{2}$	65 28 $\frac{1}{2}$	21 4 U.	55 7 49 +		22 25	72 $\frac{1}{2}$	10	☉ and ☉.
	21 25 11	29 27 $\frac{1}{2}$	61 20 $\frac{1}{2}$ L.	45 35 10	40 32 $\frac{1}{2}$	20 40	68	10	☉ and ☉.
	23 18 1	50 37 $\frac{1}{2}$	65 53 $\frac{1}{2}$ U.	45 2 17	40 39	20 22 $\frac{1}{2}$	67 $\frac{1}{2}$	10	☉ and ☉.
	1 13 24	67 19 $\frac{1}{2}$	50 53 $\frac{1}{2}$ U.	44 26 53 +		20 39 $\frac{1}{2}$	69	8	☉ and ☉.
6 — 23.	2 59 37	64 50 $\frac{1}{2}$	31 46 $\frac{1}{2}$ U.	43 49 25 +		20 32 $\frac{1}{2}$		8	☉ and ☉.

* * The characters annexed to the preceding Observations are explained on p. 178 ; but it is necessary to add, that those numbers, which the letter T is found against, express the true altitude of the center of the object, found by computation ; it having been inconvenient, on some account or other, to observe the altitude of that object at the time. It may be farther remarked, that the dip of the horizon, on board the Resolution, was 4' 20", unless expressly said to be otherwise, and that when no Quadrant is mentioned, the observed distance may, in general, be supposed to have been taken with Dollond's Quadrant.

A
JOURNAL

OF THE

SITUATIONS of his Majesty's Sloop RESOLUTION each Day at Noon,
during her late Voyage on Discoveries towards the South;

As shewn by the Log, by two Time-keepers, one made by Mr. KENDALL, on
Mr. HARRISON's Principles, and the other by Mr. ARNOLD (No. 3.),
and also by Observation.

TOGETHER WITH

The LONGITUDES and LATITUDES of all Lands seen in that Voyage, as well
as the more remarkable Capes, Head-Lands, and Bays in them.

ON BOARD THE RESOLUTION.

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1772.	Course.	Dis- tance.	Latitude North		Longitude West				Corrected.	Swell Sets.
			By Ac- count.	By Obser- vation.	By Ac- count.	By Watch K.	By A. No. 3.	By Obser- vation.		
		Miles.	°	'	°	'	°	'	°	
July 13.	S. 6½ W.	49	49 16	50 5	4 34½				4 34½	
14.	S. 40½ W.	32	48 52	49 16½	4 51				4 46	S. E.
15.	S. 40½ W.	107	47 29	48 50	5 22	5 18½	4 50½		5 22½	S. E.
16.	S. 20½ W.	64	46 28½	46 24½	7 06½	6 55½	6 20½		6 59½	S. E.
17.	N. 45 W.	22½	46 44½	46 43	7 40	7 29½	6 53½		7 33	E.
18.	S. 22 W.	85	45 25	45 20	8 04	7 36½	6 49½		7 41	E.
19.	Cape Ortgal.		43 46½		8 50	8 23½	7 29½		8 27½	
20.	S. 1½ E.	68	44 12	43 54	8 48				8 32	
21.	S. 59½ W.	45	43 31	43 30	9 39½				8 28	
22.	South.	1	43 30	43 35	9 44½	9 11½	7 53½	9 44½	8 59½	
23.	S. 36 W.	88	42 24	42 18	10 50	10 27½	9 02½	10 23½	9 15	
24.	S. 25½ W.	153	40 0	40 02	12 16	11 49½	10 15½	11 44	10 27½	
25.	S. 25½ W.	158	37 40	37 40	13 42½	13 10½	11 24½	13 10½	11 48½	
26.	W. 62 S.	145	35 32	35 31½	15 08	14 28½	12 34½	13 10½	13 10½	
27.	S. 19½ W.	111	33 46½	33 43	15 54	15 09½	13 08½	14 36	14 28	
28.	S. 48 W.	82	32 48	32 48½	17 02	16 36½	14 26½	15 22	15 09½	
	Porto Santo.		32 58½					16 30	16 36	
	Fonchial, in Madeira.		32 33½						16 25½	
Aug. 2.			31 58						17 11½	
3.	S. by W. 135½	29 45	29 42½		18 22½	17 29½	14 25½		17 02	
	N. E. end of Palma.		28 43						17 34½	
	Middle of Palma.		28 36						17 56½	
4.	S. 35 W.	80	28 37.		19 10½	18 24½	14 41½		18 0½	
5.			27 55½		19 38½	18 50½		18 52	19 11½	
	Hummock, towards the S. end of Ferro.		27 42						18 53½	
6.	S. 11½ W.	111	26 06½	26 07½	20 02½			19 17	18 09½	
7.	S. 8½ W.	128	24 0½	24 06½	20 23½	19 31½	15 02½	19 45	18 34½	
8.	S. 8 W.	120	22 07	22 07	20 41½	19 59½	15 16½	20 03½	19 24	
9.	S. 19½ W.	129	20 05½	20 05½	21 28	20 54½	15 53½	20 50	19 52	
10.	S. 22½ W.	151½	17 46	17 48	22 29½	22 06½	16 48½	21 51½	20 27	
11.	S. 22 W.	107	16 07½	16 10½	23 11	22 48½	17 12½	22 33	21 59	
	North Point.		16 13½						22 41½	
	Bonavista, East Point.		16 03½							
	South Point.		15 58						22 44½	
	North End.		15 15½							
	Mayo, Great Hummock.		15 12½						23 03	
	South end.		15 11						23 04	
12.	S. 30 W.	80½	15 0	14 59½	23 53	23 26½	17 34½	23 15	23 10	
	Port Praya, in St. Jago.		14 53½		24 4	23 36½	17 42½	23 40	23 18	
15.	S. 34 E.	76½	13 49½	13 49½	23 9			22 31	23 29½	
16.	S. 11 E.	90	12 21½	12 19½	22 51½	23 0½	15 51½	22 13½	22 34½	
17.	S. 59½ E.	46	11 56	11 54	22 11½			21 35½	22 52½	
18.	S. 56 E.	53	11 26	11 22½	21 26½	21 21½	13 34½	20 50½	22 12½	

ASTRONOMICAL OBSERVATIONS

1772	Course	Distance Miles.	Latitude North		Longitude West					Swell Sets
			By Ac- count	By Obser- vation	By Ac- count	By Watch K	By A No 3	By Obser- vation	Corrected	
Aug 19	S 24 E	48	10 39	10 39	21 07	20 54 ¹	13 07 ¹	19 12 ¹	20 47	
20	S 9 E	86 ¹	9 13 ¹	9 13 ¹	20 53			18 58 ¹	20 08	
21	S 30 E	40	8 38 ¹	8 37	20 32			18 38 ¹	19 21 ¹	
22	S 54 E	75	7 53	7 50	19 30 ¹	18 01 ¹	9 09 ¹	17 36 ¹	17 53 ¹	
23	S 43 ¹ E	84 ¹	6 48 ¹	6 48 ¹	18 29 ¹	16 49 ¹	7 44 ¹	16 31 ¹	16 41 ¹	
24	S 67 E	74	6 20	6 23 ¹	17 21	15 27 ¹	6 06 ¹	14 46	15 19 ¹	
25	S 56 E	53	5 53 ¹	5 54	16 37			14 02	14 12 ¹	
26	S E	64	5 08 ¹	5 06 ¹	15 51 ¹			13 16 ¹	13 03 ¹	
27	S 48 E	81	4 12	4 13	14 51	11 47 ¹	1 38 ¹	12 16	11 40 ¹	
28	S 68 E	75	3 45	3 42 ¹	13 42	10 17 ¹	East	11 07	10 01 ¹	
29	S 58 E	63	3 08 ¹	3 09 ¹	12 48	8 59 ¹	0 07 ¹	10 13	8 43 ¹	
30	S 63 ¹ E	71	2 37	2 36	11 44	7 12 ¹	1 35 ¹	9 09	6 56 ¹	
31	S 85 E	50	2 31 ¹	2 31 ¹	10 54	5 31 ¹	3 39 ¹	8 19	5 15 ¹	
Sept. 1	S 57 ¹ W	53	2 05	1 58 ¹	11 38	5 40 ¹	5 42	9 03	5 25 ¹	
2	S 44 W	49	1 23	1 21 ¹	12 12 ¹	6 24 ¹	6 02 ¹	5 35	6 09	
3	S 71 W	82	0 56	0 59	13 30		5 29 ¹	6 52 ¹	7 37 ¹	
4	S 80 W	66	0 45	0 50 ¹	14 35	9 09 ¹	3 10 ¹	7 57 ¹	8 53 ¹	
The current set N by E 32 feet in a minute										
5	S 78 W	10 ¹	0 48 ¹	0 53 ¹	14 45	9 12 ¹	3 20 ¹	9 54	8 56 ¹	
6	S 64 E	55	0 29 ¹	0 33 ¹	13 55 ¹	7 52 ¹	4 54 ¹	9 0	7 36 ¹	
7	S 83 E	47	0 28	0 23	13 09			8 22	7 17 ¹	
8	S 60 W	71	South	South	Crossed the Equinoctial				8 12 ¹	
9	S 48 W	50	0 51 ¹	0 59	14 10 ¹	9 02 ¹	4 52 ¹	7 58 ¹	8 47	
10	S 54 W	68	1 54	2 0	14 48	9 45 ¹	4 25 ¹	9 26	9 30	
11	S 33 W	70	2 59	3 05 ¹	15 28	10 52 ¹	2 52 ¹	10 06	10 37	
12	S 22 W	67	4 08 ¹	4 12	16 06 ¹	11 17 ¹	2 08 ¹	10 44 ¹	12 02	
13	S 36 W	73	5 10	5 12	16 32	12 16 ¹	1 35 ¹	11 10	13 01	
14	S 29 ¹ W	92		6 32	17 59 ¹	14 16 ¹	0 49 ¹	14 21 ¹	14 21 ¹	
15	S 18 ¹ W	109 ¹		8 16 ¹	18 34 ¹	15 08 ¹	0 22 ¹	15 13 ¹	15 13 ¹	
16	S 23 ¹ W	79	9 29 ¹	9 29 ¹	19 04 ¹		West	16 22 ¹	16 22 ¹	
17	S 20 W	92 ¹		11 04	19 32 ¹	18 21 ¹	1 17 ¹	18 26	17 25 ¹	
18	S 24 W	102	14 04	12 31	20 04 ¹	18 37 ¹	1 45 ¹	17 56 ¹	18 26 ¹	
19	S 16 W	91	15 34	14 07	20 46 ¹	19 35 ¹	2 21 ¹	18 54 ¹	18 43 ¹	
20	S 21 W	95 ¹	17 07	15 38	21 12 ¹	20 12 ¹	2 37 ¹	20 06 ¹	19 40 ¹	
21	S 21 ¹ W	92 ¹	18 39	17 14	21 51	21 17 ¹		20 57 ¹	20 17	
22	S 14 W	81	20 05 ¹	18 46 ¹	22 29 ¹	21 32 ¹	3 33 ¹	21 19 ¹	21 57 ¹	
23	S 17 W	80 ¹	21 29	20 12 ¹	22 52	22 0 ¹	3 53 ¹	21 47 ¹	22 05 ¹	
24	S 31 W	87	22 50	21 35 ¹	23 19 ¹	22 33 ¹	4 0 ¹	22 21	22 39 ¹	
25	S 0 ¹ W	74 ¹	24 09	23 54 ¹	24 10 ¹			23 38 ¹	23 38 ¹	
26	S 2 W	26	24 43	24 17	24 12 ¹	23 43 ¹	4 30 ¹	23 30 ¹	23 48 ¹	
27	S 23 E	45	25 26 ¹	25 29 ¹	23 52 ¹	23 46 ¹	4 21 ¹	23 39 ¹	23 51 ¹	
28	S 59 E	80	26 11	26 17 ¹	22 25 ¹		East	23 36 ¹	23 36 ¹	
29	S 70 ¹ E	114	26 55 ¹	26 58 ¹	20 18 ¹	20 08 ¹	10 07 ¹	19 55 ¹	20 13	

ON BOARD THE RESOLUTION.

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1772.	Course.	Distance.	Latitude South		Longitude West					Corrected.	Swell Sets.
			By Account.	By Observation.	By Account.	By Watch K.	By A. No. 3.	By Observation.			
									Miles.		
4 Oct.	1. S. 75 E.	107	27 26	27 28	18 14 $\frac{1}{2}$	18 09	2 23 $\frac{1}{2}$	17 56 $\frac{1}{2}$	18 14		
2	2. S. 75 $\frac{1}{2}$ E.	46 $\frac{1}{2}$	27 39 $\frac{1}{2}$	27 38 $\frac{1}{2}$	17 29	17 07 $\frac{1}{2}$	3 42 $\frac{1}{2}$	17 01 $\frac{1}{2}$	17 13 $\frac{1}{2}$		
5	3. S. 67 $\frac{1}{2}$ E.	87	28 11 $\frac{1}{2}$	28 09 $\frac{1}{2}$	16 04	15 27 $\frac{1}{2}$	5 31 $\frac{1}{2}$	15 10 $\frac{1}{2}$	15 32 $\frac{1}{2}$	N. E.	
10	4. S. 67 $\frac{1}{2}$ E.	135 $\frac{1}{2}$	29 01	29 23	13 37	13 08 $\frac{1}{2}$	8 11 $\frac{1}{2}$	13 33	13 14 $\frac{1}{2}$	N. E.	
13	5. S. 88 $\frac{1}{2}$ E.	80 $\frac{1}{2}$	29 04	29 04	12 0	11 28 $\frac{1}{2}$	10 08 $\frac{1}{2}$	11 50	11 33 $\frac{1}{2}$		
16	6. S. 12 W.	44 $\frac{1}{2}$	29 44	29 48 $\frac{1}{2}$	12 12 $\frac{1}{2}$	11 45 $\frac{1}{2}$	10 05 $\frac{1}{2}$	11 40	11 50 $\frac{1}{2}$		
19	7. S. 2 $\frac{1}{2}$ W.	81	31 09 $\frac{1}{2}$	31 21	12 16 $\frac{1}{2}$	11 56 $\frac{1}{2}$	10 17 $\frac{1}{2}$	11 51 $\frac{1}{2}$	12 01 $\frac{1}{2}$		
24	8. S. 23 $\frac{1}{2}$ E.	76	32 30 $\frac{1}{2}$	32 45 $\frac{1}{2}$	11 33	11 29 $\frac{1}{2}$	10 56 $\frac{1}{2}$	11 24 $\frac{1}{2}$	11 34 $\frac{1}{2}$		
27	9. S. 39 E.	83	33 50 $\frac{1}{2}$	34 0 $\frac{1}{2}$	10 21 $\frac{1}{2}$	10 16 $\frac{1}{2}$	12 22 $\frac{1}{2}$	10 11 $\frac{1}{2}$	10 22 $\frac{1}{2}$		
30	10. S. 70 E.	84	34 29	34 28 $\frac{1}{2}$	8 42 $\frac{1}{2}$	8 43 $\frac{1}{2}$	14 36 $\frac{1}{2}$	8 18	8 27		
31	11. E. by S. $\frac{1}{2}$ S.	66 $\frac{1}{2}$	34 44 $\frac{1}{2}$	34 44 $\frac{1}{2}$	7 24 $\frac{1}{2}$	7 05 $\frac{1}{2}$	16 07 $\frac{1}{2}$	7 0 $\frac{1}{2}$	7 18 $\frac{1}{2}$		
1	12. E. by S.	34 $\frac{1}{2}$	34 51 $\frac{1}{2}$	34 51 $\frac{1}{2}$	6 37 $\frac{1}{2}$	6 25 $\frac{1}{2}$	16 49 $\frac{1}{2}$	5 55 $\frac{1}{2}$	6 25		
4	13. S. 62 $\frac{1}{2}$ E.	42	35 11 $\frac{1}{2}$	35 14 $\frac{1}{2}$	5 47 $\frac{1}{2}$				5 18		
7	14. S. 77 E.	89	35 34 $\frac{1}{2}$	35 32 $\frac{1}{2}$	4 12	3 25 $\frac{1}{2}$	20 0 $\frac{1}{2}$	2 55 $\frac{1}{2}$	3 19		
10	15. S. 85 E.	85	35 40	35 34 $\frac{1}{2}$	2 28 $\frac{1}{2}$	1 22 $\frac{1}{2}$	22 46 $\frac{1}{2}$	0 53	1 14		
13	16. N. 81 E.	135	35 17	35 17	0 15 $\frac{1}{2}$	1 37 $\frac{1}{2}$	26 01 $\frac{1}{2}$	2 06 $\frac{1}{2}$	1 46		
The water discoloured, as if we were in soundings.											
16	17. N. 82 E.	110	35 01 $\frac{1}{2}$	35 0	2 28 $\frac{1}{2}$	3 59 $\frac{1}{2}$	28 33 $\frac{1}{2}$	4 41 $\frac{1}{2}$	4 09		
19	18. N. 80 E.	128	34 37 $\frac{1}{2}$	34 37 $\frac{1}{2}$	5 04 $\frac{1}{2}$	6 31 $\frac{1}{2}$	31 28 $\frac{1}{2}$	7 14 $\frac{1}{2}$	6 43		
22	19. N. 71 E.	60	34 21 $\frac{1}{2}$	34 19	6 11 $\frac{1}{2}$	7 26 $\frac{1}{2}$	32 35 $\frac{1}{2}$	8 08 $\frac{1}{2}$	7 37 $\frac{1}{2}$		
25	20. S. 29 E.	29	34 44 $\frac{1}{2}$	34 48 $\frac{1}{2}$	6 29	7 36 $\frac{1}{2}$	32 57 $\frac{1}{2}$	8 02 $\frac{1}{2}$	7 47 $\frac{1}{2}$		
28	21. S. 5 E.	55	35 42 $\frac{1}{2}$	35 39	6 34 $\frac{1}{2}$	7 21 $\frac{1}{2}$	33 07 $\frac{1}{2}$	7 59 $\frac{1}{2}$	7 32 $\frac{1}{2}$		
31	22. S. S. E.	76	36 50	36 52 $\frac{1}{2}$	7 11 $\frac{1}{2}$	8 09 $\frac{1}{2}$	33 58 $\frac{1}{2}$	8 47 $\frac{1}{2}$	8 20 $\frac{1}{2}$		
3	23. S. 65 E.	37 $\frac{1}{2}$	37 08 $\frac{1}{2}$	37 12 $\frac{1}{2}$	7 54 $\frac{1}{2}$	9 0 $\frac{1}{2}$	35 02 $\frac{1}{2}$	9 38 $\frac{1}{2}$	9 11 $\frac{1}{2}$		
6	24. E. N. E. $\frac{1}{2}$ E.	91	36 42	36 38	9 42	11 0 $\frac{1}{2}$	37 26 $\frac{1}{2}$	11 38 $\frac{1}{2}$	11 11 $\frac{1}{2}$		
9	25. N. 63 E.	136	35 37	35 37	12 12 $\frac{1}{2}$				13 23 $\frac{1}{2}$		
12	26. N. 49 E.	91	34 37 $\frac{1}{2}$	34 29 $\frac{1}{2}$	13 37 $\frac{1}{2}$	14 18 $\frac{1}{2}$	41 16 $\frac{1}{2}$	14 57	14 30	W.	
Sounded: No ground with 210 fathoms.											
15	27. N. 45 E.	79	33 44	33 43	14 44 $\frac{1}{2}$	15 11 $\frac{1}{2}$	42 25 $\frac{1}{2}$	15 49 $\frac{1}{2}$	15 22 $\frac{1}{2}$	W.	
Sounded: No ground with 260 fathoms.											
18	28. N. 89 E.	53	33 43	33 41 $\frac{1}{2}$	15 46 $\frac{1}{2}$	15 56 $\frac{1}{2}$	43 27 $\frac{1}{2}$	16 35	16 08		
Sounded: No ground with 220 fathoms.											
21	29. S. 81 E.	74	33 53 $\frac{1}{2}$	33 53 $\frac{1}{2}$	17 14				17 30		
Cape of Good Hope.											
			33 57	33 56	18 10 $\frac{1}{2}$	18 12 $\frac{1}{2}$	47 18 $\frac{1}{2}$	18 50	18 23 $\frac{1}{2}$		
24 Nov.	23. S. 46 W.	58	34 37	34 36 $\frac{1}{2}$	17 32 $\frac{1}{2}$	17 46 $\frac{1}{2}$	17 29 $\frac{1}{2}$		17 43 $\frac{1}{2}$	N.	
27	24. S. 10 E.	50	35 25	35 23 $\frac{1}{2}$	17 42 $\frac{1}{2}$	17 58 $\frac{1}{2}$	17 35		17 55 $\frac{1}{2}$	N.	
30	25. S. 20 W.	98	36 55 $\frac{1}{2}$	37 14	16 52 $\frac{1}{2}$	16 38 $\frac{1}{2}$	16 02 $\frac{1}{2}$		16 38 $\frac{1}{2}$		
3	26. S. 11 W.	99	38 51	39 03 $\frac{1}{2}$	16 25 $\frac{1}{2}$	15 34 $\frac{1}{2}$	15 02 $\frac{1}{2}$		15 34 $\frac{1}{2}$		
6	27. S. 27 E.	67	40 03	40 05 $\frac{1}{2}$	17 06 $\frac{1}{2}$	16 31 $\frac{1}{2}$	15 53 $\frac{1}{2}$		16 31 $\frac{1}{2}$		
9	28. S. 4 E.	55	40 58	40 58 $\frac{1}{2}$	17 11 $\frac{1}{2}$				16 3 $\frac{1}{2}$		
12	29. S. 3 E.	69	42 07 $\frac{1}{2}$	42 08	17 16 $\frac{1}{2}$	16 30 $\frac{1}{2}$	15 42 $\frac{1}{2}$		16 30 $\frac{1}{2}$		
15	30. S. 60 E.	29	42 22 $\frac{1}{2}$	42 22	17 50 $\frac{1}{2}$				17 13 $\frac{1}{2}$		
18 Dec.	1. S. 8 E.	53	43 14 $\frac{1}{2}$	43 14 $\frac{1}{2}$	18 0 $\frac{1}{2}$				17 32 $\frac{1}{2}$		

1773	Course	Distance Miles	Latitude South		Longitude East					Corrected	Swell Gale
			By Ac- count	Observ- ation	By Ac- count	By Watch K	By A No 3	By Obser- vation			
Feb 12	S 51 E	148	52 56 1/2	52 48	73 49	70 34 1/2	69 11 1/2	70 48	71 01		
13	S 54 E	111	53 53 1/2	53 54 1/2	76 18 1/2	72 53 1/2	71 33 1/2	73 21 1/2	73 20 1/2		
14	S 48 E	125 1/2	55 18 1/2	55 18 1/2	78 0	73 35 1/2	72 19 1/2	74 3	74 02 1/2		
15	S 56 E	163	56 49 1/2	56 50	82 1 1/2	79 12 1/2	77 54 1/2	79 40	79 39 1/2		
16	S 70 E	75	57 15 1/2	57 15 1/2	84 11 1/2	81 20 1/2	80 4	81 47 1/2	81 47 1/2		
17	S 44 E	56	57 55 1/2	57 54 1/2	85 24 1/2			82 38	82 38		
18	S 86 E	57	57 59 1/2	57 57	87 11 1/2	83 34 1/2	82 21 1/2	83 49	84 2 1/2		
19	S 76 E	135	58 29 1/2	58 30	91 20 1/2			91 38 1/2	91 54 1/2		
20	S 81 1/2 E	122	58 47 1/2	58 46 1/2	95 11 1/2	91 25 1/2	90 15 1/2	91 38 1/2	91 54 1/2		
21	S 67 E	29	58 58	59 0	96 3 1/2	92 20 1/2	91 12	92 33 1/2	92 50 1/2		
22	S 46 E	47 1/2	59 31	59 35	97 10 1/2	93 34	92 27	93 47	94 04		
23	S 20 E	90	60 55 1/2	61 1 1/2	98 13 1/2			93 47	94 56 1/2		
24	S 46 E	28	61 20 1/2	61 20 1/2	98 55 1/2				95 29		
25	N 16 E	33	60 49	60 48 1/2	99 14	95 6 1/2	94 6 1/2	95 18 1/2	95 37 1/2		
26	S 76 1/2 E	81 1/2	61 7 1/2	61 8	101 58	97 32	96 33 1/2	97 43 1/2	98 04		
27	N 55 E	77	60 24	60 24	104 27				100 37		
28		136	59 58	59 57 1/2	108 54 1/2	104 34 1/2	103 39	104 45 1/2	105 08		
March 1	S 67 1/2 E	94	60 34	60 34	111 48 1/2				108 14		
2	S 40 W	13	60 44	60 44	111 32 1/2				108 09		
3	N 64 E	65 1/2	60 15 1/2	60 16 1/2	113 32	102 45 1/2	108 51	109 56 1/2	110 20 1/2		
4	S 82 E	105	60 32	60 35	117 2 1/2				113 56 1/2		
5	S 88 E	108	60 34 1/2	60 38 1/2	120 43	116 53 1/2	115 55	117 03 1/2	117 29 1/2		
6	N 34 E	42	60 3 1/2	60 9 1/2	121 30 1/2	118 0 1/2	117 13 1/2	118 10 1/2	118 37 1/2		
7	N 86 E	56	59 59 1/2	60 12	123 21 1/2				120 25 1/2		
8	N 41 E	45	59 25	59 43 1/2	124 19	120 40 1/2	119 58 1/2	120 49 1/2	121 19 1/2		
9	N 48 E	77	58 53 1/2	58 55 1/2	126 4 1/2				123 01 1/2		
10	N 71 E	154	58 16 1/2	58 6	130 43 1/2				127 37 1/2		
11	S 85 1/2 E	91	58 16 1/2	58 9	133 35 1/2	129 45 1/2	129 8 1/2	129 54 1/2	130 26 1/2		
12	S 48 E	69	58 55 1/2	58 55 1/2	135 14	131 4 1/2	130 25 1/2	131 12 1/2	131 46 1/2		
13	N 76 E	55	58 42 1/2	58 42	136 57 1/2	132 41 1/2	132 4 1/2	132 49	133 24		
14	N 76 E	86	58 21 1/2	58 21 1/2	139 37	135 17 1/2	134 42 1/2	136 15	136 0 1/2		
15	S 69 E	119	59 4 1/2	59 4 1/2	143 11	138 59 1/2	138 25 1/2	139 58 1/2	139 43 1/2		
16	N 83 E	110	58 50 1/2	58 51 1/2	146 42 1/2	142 9 1/2	141 36 1/2	143 8 1/2	142 54 1/2		
Stood to the Northward			58	57							
17	N 81 E	148	58 28 1/2	58 28 1/2	151 32 1/2	146 35 1/2		147 33 1/2	147 20 1/2		
18	N 30 E	136	56 30 1/2	56 31 1/2	153 39	149 9 1/2	148 38 1/2	150 7 1/2	149 55 1/2		
19	N 36 1/2 E	144	54 35 1/2	54 46	156 10 1/2				152 11 1/2		
20	N 49 1/2 E	164	52 48	53 22 1/2	158 51 1/2	153 48	153 18 1/2	154 45 1/2	154 36		
21	N 31 1/2 E	150	51 14 1/2	51 14 1/2	160 59 1/2				156 47 1/2		
22	N 49 1/2 E	123	49 55	49 55 1/2	163 26 1/2	158 27 1/2	158 2 1/2	159 24 1/2	159 17 1/2		
23	N 40 E	169 1/2	47 45 1/2	47 45 1/2	166 6 1/2	160 45 1/2	160 23 1/2	161 42 1/2	161 36 1/2		
24	N 51 E	115	46 32 1/2	46 32 1/2	168 19 1/2	162 50 1/2	162 29 1/2	163 47 1/2	163 42 1/2		
25	N 79 E	83	46 17	46 15	170 17 1/2				165 38		
26	N 32 E	95	45 45 1/2	45 45 1/2	170 44 1/2				166 4 1/2		
Observatory at Dufky Bay			45	47 1/2					166 18 1/2		

ON BOARD THE RESOLUTION.

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1773.	Course.	Distance. Miles.	Latitude South		Longitude East					Swell fets.
			By Ac- count.	By Obser- vation.	By Ac- count.	By Watch K.	By A. No. 3.	By Obser- vation.	Corrected.	
May 11.										
12.	N. 29 E.	61	44 38 $\frac{1}{2}$	45 37	166 34 $\frac{1}{2}$				166 41	
13.	N. 34 E.	119	42 59 $\frac{1}{2}$	42 55 $\frac{1}{2}$	168 06 $\frac{1}{2}$				167 17	
14.	N. 51 E.	97 $\frac{1}{2}$	41 58 $\frac{1}{2}$	41 52 $\frac{1}{2}$	169 49 $\frac{1}{2}$	170 20 $\frac{1}{2}$	169 54 $\frac{1}{2}$		168 57	
15.	N. 32 E.	46 $\frac{1}{2}$	41 13	41 13	170 22 $\frac{1}{2}$	170 59 $\frac{1}{2}$	170 29 $\frac{1}{2}$		170 53 $\frac{1}{2}$	
16.	N. 52 E.	23	40 59	40 58	170 51				171 33 $\frac{1}{2}$	
	Cape Farwell.								172 17	
17.	N. 60 E.	43	40 37 $\frac{1}{2}$	40 33 $\frac{1}{2}$	171 48 $\frac{1}{2}$	172 54 $\frac{1}{2}$	172 29	173 33 $\frac{1}{2}$	172 47 $\frac{1}{2}$	
18.	S. 66 E.	54	40 56	41 3					173 29 $\frac{1}{2}$	
	Q. Charlotte's Sound.								174 27 $\frac{1}{2}$	
June 8.									174 18 $\frac{1}{2}$	
9.	S. 52 E.	91	42 52 $\frac{1}{2}$	41 56 $\frac{1}{2}$		174 57 $\frac{1}{2}$			175 36 $\frac{1}{2}$	
10.	S. 52 E.	100 $\frac{1}{2}$	43 54	42 57 $\frac{1}{2}$	176 37				177 32	
11.	S. 52 E.	78 $\frac{1}{2}$	44 43	43 54 $\frac{1}{2}$	178 25 $\frac{1}{2}$	179 02 $\frac{1}{2}$		179 54	179 41 $\frac{1}{2}$	N.W.
12.	S. 59 $\frac{1}{2}$ E.	109	45 38	44 46	179 52				181 0	N.W.
13.	S. 31 E.	43	46 15	45 44	182 04				183 24	N.W.
14.	S. 71 $\frac{1}{2}$ E.	25 $\frac{1}{2}$	46 23	46 24	182 36 $\frac{1}{2}$				184 7 $\frac{1}{2}$	
15.	S. 76 E.	32	46 31	46 35	183 11 $\frac{1}{2}$				184 53 $\frac{1}{2}$	N.W.
16.	S. 32 E.	33	46 59 $\frac{1}{2}$	46 46 $\frac{1}{2}$	183 57 $\frac{1}{2}$	185 23 $\frac{1}{2}$		186 14 $\frac{1}{2}$	185 58 $\frac{1}{2}$	
17.	N. 40 E.	50	46 21	46 58	184 23				186 9	S.W.
18.	N. 75 E.	91	45 54 $\frac{1}{2}$	46 18 $\frac{1}{2}$	185 10	186 8		186 58 $\frac{1}{2}$	186 41	S.W.
19.	N. 59 E.	85	45 10	45 54	187 16 $\frac{1}{2}$	188 8		188 59 $\frac{1}{2}$	188 41	
20.	N. 76 E.	114	44 42	45 6	188 59				190 33 $\frac{1}{2}$	
21.	N. 87 E.	67	44 38 $\frac{1}{2}$	44 34	191 35				193 3 $\frac{1}{2}$	
22.	S. 79 E.	66	44 39	44 26	193 10	194 17 $\frac{1}{2}$		195 9	194 48 $\frac{1}{2}$	N.W.
23.	S. 89 E.	50	44 37	44 35 $\frac{1}{2}$	194 43	195 54 $\frac{1}{2}$		196 46	196 25 $\frac{1}{2}$	
24.	N. 8 W.	58	43 38	44 37 $\frac{1}{2}$	195 55	197 23		198 14 $\frac{1}{2}$	197 53	
25.	N. 19 W.	23	43 16	43 37	195 51				197 37	
26.	N. 69 E.	9	43 13	43 14	195 41				197 15	
27.	N. 11 E.	36	42 34	43 9 $\frac{1}{2}$	195 53	196 47		196 24	197 15	
28.	S. 86 E.	36	42 36	42 34	196 2				197 27	
29.	S. 54 E.	23	42 49	42 35	196 51				198 9 $\frac{1}{2}$	
30.	S. 67 E.	59	43 9	42 46 $\frac{1}{2}$	197 19				198 40 $\frac{1}{2}$	
July 1.	S. 82 E.	71	43 15	43 6	198 38				200 2 $\frac{1}{2}$	
2.	N. 87 E.	64	43 4	43 7 $\frac{1}{2}$	200 21	201 26 $\frac{1}{2}$		202 11 $\frac{1}{2}$	201 49 $\frac{1}{2}$	
3.	S. 72 E.	56	43 20	43 2 $\frac{1}{2}$	201 54	202 52 $\frac{1}{2}$		203 2 $\frac{1}{2}$	203 15 $\frac{1}{2}$	
4.	S. 53 E.	51	43 57	43 18	203 12	204 19 $\frac{1}{2}$		204 29 $\frac{1}{2}$	204 42 $\frac{1}{2}$	
5.	N. 62 E.	105	43 9	43 58	203 56	205 10		205 20	205 32	S.W.
6.	N. 34 E.	76	42 6	43 11	206 11	207 12		207 22	207 34	W.
7.	N. 33 E.	52	41 23 $\frac{1}{2}$	42 7 $\frac{1}{2}$	206 23	208 0		208 10	208 32	W.
8.	S. 64 E.	83	41 58 $\frac{1}{2}$	41 22	207 8	208 48 $\frac{1}{2}$		209 10 $\frac{1}{2}$	209 10 $\frac{1}{2}$	
9.	S. 65 E.	91	42 37	41 59	208 59	210 48 $\frac{1}{2}$		211 8 $\frac{1}{2}$	211 10 $\frac{1}{2}$	N.
10.	S. 61 E.	132	43 43	42 39 $\frac{1}{2}$	210 48	212 55 $\frac{1}{2}$		213 15	213 17 $\frac{1}{2}$	
11.	S. 87 E.	99 $\frac{1}{2}$	43 48 $\frac{1}{2}$	43 36 $\frac{1}{2}$	213 32	215 27 $\frac{1}{2}$		215 47	215 49 $\frac{1}{2}$	
12.	N. 79 E.	29	43 18 $\frac{1}{2}$	43 34 $\frac{1}{2}$	215 57	217 43 $\frac{1}{2}$		217 49 $\frac{1}{2}$	218 5 $\frac{1}{2}$	
13.	N. 79 E.	46	43 7	43 16	217 51	219 42 $\frac{1}{2}$		219 28 $\frac{1}{2}$	219 42 $\frac{1}{2}$	
					218 57	220 51 $\frac{1}{2}$		221 8	221 13 $\frac{1}{2}$	

1773	Course.	Dis- tance	Latitude South		Longitude East				Corrected.	Small feet
			By Ac- count	By Obser- vation	By Ac- count	By Watch K	By Obser- vation			
		Miles								
July 14	S 79 E	39	43 9	43 7	220 0					
15	N 4 W	30	42 40	42 36	219 57				222 14	
16	N 51 E	109	41 31	41 24	222 4	223 50 ¹	224 6 ¹	224 12 ¹	222 08	
17	N 51 E	136	39 58	39 43 ¹	224 48	226 10 ¹	226 26 ¹	226 32 ¹	224 12 ¹	
18	N 6 E	108	37 56	37 56	225 2	226 22 ¹	226 38 ¹	226 44 ¹	226 32 ¹	
19	N 8 E	83	36 45 ¹	36 34 ¹	225 17	226 43	226 59 ¹	227 5	226 44 ¹	
20	N 6 W	74	35 23	35 20	225 7	226 33	226 49 ¹	226 55	227 5	
21	N 1 ¹ W	156	32 44 ¹	32 44	224 48	225 49	226 5 ¹	226 12	226 55	
22	N 15 W	100 ¹	31 7 ¹	31 5 ¹	224 25	225 13 ¹	225 29 ¹	225 36 ¹	226 12	
23	N 7 W	98	29 28	29 22 ¹	224 10	224 52 ¹	225 8 ¹	225 15 ¹	225 36 ¹	
24	S 67 W	73	29 50 ¹	29 47	222 52			224 3	225 15 ¹	
25	S 88 W	26	29 51 ¹	29 44 ¹	222 22	223 16 ¹	223 29 ¹	223 39 ¹	224 3	
26	N 37 E	66	28 51 ¹	28 52 ¹	223 7	224 15 ¹	224 37 ¹	224 38 ¹	223 39 ¹	
27	N 16 E	57	27 68	27 53 ¹	223 26 ¹	224 31 ¹	225 14	224 54 ¹	224 38 ¹	
28	N 73 W	27	27 44	27 43	223 13 ¹	223 58 ¹	224 52 ¹	224 21 ¹	224 54 ¹	
29	N 69 W	43	27 28	27 30 ¹	222 28 ¹	223 11 ¹	224 12	223 34 ¹	224 21 ¹	
30	N 61 E	55	27 4	27 4 ¹	223 22 ¹	224 13 ¹	225 14	224 37	223 34 ¹	
31	N 18 E	46	26 20 ¹	26 19 ¹	223 36 ¹	224 49 ¹	225 23 ¹	225 13	224 37	
Aug 1	N 25 E	85	25 2 ¹	25 2 ¹	224 16 ¹			225 54	225 13	
2	N 3 E	108	23 14 ¹	23 14	224 22 ¹	225 36 ¹	226 2 ¹	226 0 ¹	225 54	
3	N 2 E	60	22 12 ¹	22 8 ¹	224 24 ¹	225 51 ¹	227 7 ¹	226 15 ¹	226 0 ¹	
4	N 13 E	38	21 30	21 18	224 37	226 2 ¹	227 12 ¹	226 26 ¹	226 15 ¹	
5	N 56 E	70	20 38 ¹	20 39 ¹	225 17 ¹	227 30 ¹	228 40 ¹	227 54 ¹	226 26 ¹	
6	N 83 E	60	19 48	19 47 ¹	226 19	227 59 ¹	229 9 ¹	228 24	227 54 ¹	
7	N 59 W	97	18 57	18 51	224 59			226 54 ¹	229 9 ¹	
8	N 70 W	148	18 1	18 4 ¹	222 31	223 52	225 2	224 16 ¹	226 54 ¹	
9	N 79 W	120	17 41 ¹	17 41 ¹	220 27 ¹	221 40	221 57 ¹	222 4 ¹	224 16 ¹	
10	N 84 W	111	17 30	17 22 ¹	218 31 ¹	219 35	220 2 ¹	219 59 ¹	221 57 ¹	
	Resolution Island.		17 23 ¹	17 23 ¹				218 15	219 59 ¹	
11	N 86 W	112	17 15	17 17 ¹	216 34 ¹	217 34	218 1 ¹	217 58 ¹	218 15	
	Furneaux's Island		17 11	17 11				216 53 ¹	217 58 ¹	
12	N 88 W	91	17 18 ¹	17 11	214 59 ¹	215 58	215 58	216 22 ¹	216 53 ¹	
	Adventure Island		17 6 ¹	17 6 ¹				215 42 ¹	215 58	
13	S 87 W	75	17 15	17 16 ¹	213 41 ¹	214 41	214 41	215 4	215 42 ¹	
	Chain Island		17 25	17 25				214 29 ¹	214 41	
14	S 89 W	99	17 18	17 15	211 57 ¹	212 53	212 55	213 18	214 29 ¹	
	Mataea, or Osnaburg		17 52 ¹	17 52 ¹				211 54 ¹	212 55	
15	S 75 W	96	17 40	17 46 ¹	210 22 ¹	211 14 ¹	211 38 ¹	211 39 ¹	211 54 ¹	
16	N 87 W	40	17 44	17 44 ¹	209 41 ¹			210 58	211 39 ¹	
	Oatpeha Bay		17 46 ¹	17 46 ¹				210 46 ¹	209 41 ¹	
24			17 42	17 42				210 47 ¹	210 58	
25			17 28 ¹	17 28 ¹				210 28 ¹	210 46 ¹	
	Point Venus.		17 29 ¹	17 29 ¹				210 25 ¹	210 28 ¹	
Sept 2			16 51 ¹	16 51 ¹				208 52 ¹	210 25 ¹	
	Owharre Bay, S. part.		16 44 ¹	16 44 ¹				208 20 ¹	208 52 ¹	
7			16 50 ¹	16 50 ¹				208 20 ¹	208 44 ¹	
	Ohamaneno Bay		16 45 ¹	16 45 ¹					208 20 ¹	

South

1773.	Course.	Distance. Miles.	Latitude South		Longitude East				Swallow sets.
			By Account.	By Observation.	By Account.	By Watch K.	By Observation.	Corrected.	
Sept. 17.				16 51 $\frac{1}{2}$				208 0	
18.	S. 71 W.	75	17 16	17 17	206 59	206 43		206 45	
19.	S. 70 W.	66	17 39 $\frac{1}{2}$	17 40	205 54	205 38 $\frac{1}{2}$		205 42 $\frac{1}{2}$	
20.	S. 69 W.	65	18 3 $\frac{1}{2}$	18 3 $\frac{1}{2}$	204 49			204 39	
21.	S. 67 W.	51	18 23 $\frac{1}{2}$	18 22 $\frac{1}{2}$	204 0	203 44 $\frac{1}{2}$	204 10 $\frac{1}{2}$	203 52 $\frac{1}{2}$	
22.	S. 71 W.	51	18 39 $\frac{1}{2}$	18 41	203 9	202 46 $\frac{1}{2}$	203 12 $\frac{1}{2}$	202 56 $\frac{1}{2}$	
23.	S. 70 W.	80 $\frac{1}{2}$	19 08 $\frac{1}{2}$	19 8 $\frac{1}{2}$	201 49	201 12 $\frac{1}{2}$	201 38 $\frac{1}{2}$	201 24 $\frac{1}{2}$	
	Hervey's Islands.			19 17				201 12	
24.	S. 72 W.	71	19 29 $\frac{1}{2}$	19 28 $\frac{1}{2}$	200 41 $\frac{1}{2}$	199 33	199 54 $\frac{1}{2}$	199 47	
25.	S. 76 W.	101	19 53 $\frac{1}{2}$	19 51 $\frac{1}{2}$	198 56	197 36 $\frac{1}{2}$	198 18 $\frac{1}{2}$	197 52 $\frac{1}{2}$	
26.	S. 73 W.	109	20 23 $\frac{1}{2}$	20 25 $\frac{1}{2}$	197 5	195 33 $\frac{1}{2}$	196 16	195 51 $\frac{1}{2}$	
27.	S. 79 W.	120	20 46	20 40	195 1	193 45	194 27 $\frac{1}{2}$	194 5	
28.	S. 81 W.	136	21 1	21 3 $\frac{1}{2}$	192 34	191 5	191 47 $\frac{1}{2}$	191 27	
29.	S. 76 W.	111	21 30 $\frac{1}{2}$	21 30 $\frac{1}{2}$	190 39	189 42 $\frac{1}{2}$	190 30	190 6 $\frac{1}{2}$	
30.	N. 82 W.	153	21 8 $\frac{1}{2}$	21 11 $\frac{1}{2}$	188 1	187 25 $\frac{1}{2}$	188 12 $\frac{1}{2}$	187 51 $\frac{1}{2}$	
Oct. 1.	S. 83 W.	87	21 21 $\frac{1}{2}$	21 21 $\frac{1}{2}$	186 29	185 47	186 34 $\frac{1}{2}$	186 15	
	English Road, Eaoowe.			21 20 $\frac{1}{2}$				185 26	
	Van Diemen's Road,								
	Tongatabu.			21 4 $\frac{1}{2}$				185 3 $\frac{1}{2}$	
8.	S. 18 W.	61	22 3 $\frac{1}{2}$	22 4 $\frac{1}{2}$	184 44	184 8 $\frac{1}{2}$	184 41 $\frac{1}{2}$	184 40	
9.	S. 50 E.	40	22 29 $\frac{1}{2}$	22 28	185 17	184 51 $\frac{1}{2}$	185 24 $\frac{1}{2}$	185 22 $\frac{1}{2}$	
10.	S. 74 W.	61	22 44 $\frac{1}{2}$	22 45 $\frac{1}{2}$	184 13	183 29 $\frac{1}{2}$	183 59	184 0	
	Pylestaart Island.			22 23 $\frac{1}{2}$				184 12	
11.	S. 42 W.	88	23 50 $\frac{1}{2}$	23 49 $\frac{1}{2}$	183 8	182 10 $\frac{1}{2}$	182 21	182 40 $\frac{1}{2}$	
12.	S. 19 W.	110	25 34	25 36 $\frac{1}{2}$	182 28	181 16	181 44 $\frac{1}{2}$	181 45 $\frac{1}{2}$	
13.	S. 13 W.	100	27 13 $\frac{1}{2}$	27 13 $\frac{1}{2}$	182 3	180 25 $\frac{1}{2}$	180 54 $\frac{1}{2}$	180 54 $\frac{1}{2}$	
14.	S. 12 W.	97	28 47 $\frac{1}{2}$	28 46	181 40	179 45 $\frac{1}{2}$	180 13 $\frac{1}{2}$	180 13 $\frac{1}{2}$	
15.	S. 9 W.	93	30 19	30 16	181 24	179 30 $\frac{1}{2}$	179 59	179 58 $\frac{1}{2}$	
16.	S. 8 W.	89	31 41 $\frac{1}{2}$	31 41 $\frac{1}{2}$	181 10	179 27 $\frac{1}{2}$	179 55 $\frac{1}{2}$	179 55 $\frac{1}{2}$	
17.	S. 1 $\frac{1}{2}$ E.	63	32 42 $\frac{1}{2}$	32 41 $\frac{1}{2}$	181 11 $\frac{1}{2}$	179 26 $\frac{1}{2}$	179 55	179 54	
18.	S. 11 E.	83	34 3 $\frac{1}{2}$	33 46 $\frac{1}{2}$	181 27	179 48 $\frac{1}{2}$	180 17	180 15 $\frac{1}{2}$	
19.	S. 7 E.	130	35 57	35 58	181 46	179 47 $\frac{1}{2}$	180 16	180 14	
20.	S. 14 W.	115	37 49 $\frac{1}{2}$	37 47 $\frac{1}{2}$	181 11 $\frac{1}{2}$	179 33 $\frac{1}{2}$	179 46 $\frac{1}{2}$	179 59 $\frac{1}{2}$	
21.	S. 28 W.	88	38 59 $\frac{1}{2}$	39 6	180 12 $\frac{1}{2}$	178 29 $\frac{1}{2}$	178 30 $\frac{1}{2}$	178 55 $\frac{1}{2}$	
	The Shambles off Table-Head.			39 20				178 20 $\frac{1}{2}$	
	Portland.			39 25				178 12	
22.	S. 50 W.	109	40 15 $\frac{1}{2}$	40 14	178 23 $\frac{1}{2}$	176 45 $\frac{1}{2}$	176 46 $\frac{1}{2}$	177 11	
	Cape Turnagain.			40 28				176 56	
23.	S. 64 W.	33	40 28 $\frac{1}{2}$	40 28 $\frac{1}{2}$	177 44	176 36	176 35 $\frac{1}{2}$	177 2	
24.	S. 26 W.	78	41 38 $\frac{1}{2}$	41 39	176 58 $\frac{1}{2}$	176 12 $\frac{1}{2}$	176 12 $\frac{1}{2}$	176 38 $\frac{1}{2}$	
25.	S. 38 W.	55	42 21 $\frac{1}{2}$	42 23	176 12 $\frac{1}{2}$			175 54	
26.	S. 65 W.	15	42 29	42 27	175 59 $\frac{1}{2}$	175 16 $\frac{1}{2}$	175 16 $\frac{1}{2}$	175 42 $\frac{1}{2}$	
27.	N. 10 W.	52	41 36	41 35 $\frac{1}{2}$	175 47 $\frac{1}{2}$	175 25 $\frac{1}{2}$	175 25	175 51 $\frac{1}{2}$	
28.	S. 13 W.	43	42 17	42 16 $\frac{1}{2}$	175 34 $\frac{1}{2}$	175 16 $\frac{1}{2}$	175 16	176 42 $\frac{1}{2}$	
29.	N. 24 E.	40	41 39	41 45 $\frac{1}{2}$	175 52 $\frac{1}{2}$	175 46 $\frac{1}{2}$	175 46 $\frac{1}{2}$	176 12 $\frac{1}{2}$	

1773	Course	Distance. Miles.	Latitude South		Longitude East			Corrected	Swell sets.
			By Account	By Observation	By Account	By Watch K	By Observation		
h Oct 30	S. 64 W	73	42 17	42 13½	174 24½			174 55	
o — 31	S 58 E	19	42 23½	42 19	174 46½			175 26½	
h Nov 1	N 54 W	48	41 51	41 51	173 55½			174 45	
h — 2	Queen Charlotte's Sound								174 54
h — 27	S 14 E	107	43 26½	43 26½	175 24	175 55½		174 18	N E
o — 28	S 20 E	56	44 19	44 19	175 50½	176 32½		175 56½	N E
h — 29	S 14 E	15	44 35½	44 36½	175 56½	176 57½		176 34½	N F
h — 30	S 45 E	107	45 51½	45 49½	177 43½	178 23½		176 0	N F
h Dec. 1	S 38 E	93	47 2½	47 4½	179 6½	179 27		178 28½	N F
h — 2	S 35 E	93	48 19	48 21½	180 28			179 33½	N L
h — 3	S 27 E	39	48 56½	48 56½	180 54			180 56	N L
h — 4	S 17 W	68	50 1	50 1	180 23½			181 23	N L
h — 5	S 70 W	44	50 16	50 14½	179 19½	179 38½	180 4	180 53½	N E.
h — 6	S 6 W	31	50 45	50 54½	179 14½	179 33½	179 58½	179 50½	N L
h — 7	S 9 E	131	53 6½	53 7½	179 48½	180 18	180 43½	179 46½	N E.
h — 8	S 6 E	160	55 47	55 39	180 20½	181 26	181 54	180 33	N E
h — 9	S 6 E	126	57 45	58 2	180 44½	182 44	182 21½	181 42½	N L
h — 10	S 43 E	98	59 9½	59 4½	182 44½			182 22½	N E
h — 11	S 27 E	116	60 54	60 44½	184 15	186 53½	187 10½	184 56½	N F
h — 12	S 30 E	143	62 48½	62 46½	186 44	189 28½	189 45½	187 14½	N F
h — 13	S 52 E	93	63 42½	63 39½	189 29			189 51	N F
h — 14	S 52 E	129	65 2½	64 55	192 14	196 37½	196 54½	193 19	N F
h — 15	S 60 E	100	65 46	65 42	195 46			197 3	N F
h — 16	S 43 E	28	64 24½	64 16	198 7			200 38	N L.
h — 17	S 66 E	51	64 36	64 35	199 57	204 30	204 47	203 4	
h — 18	S 83 E	87	64 25½	64 27	203 12			204 58	
h — 19	S 75 E	73	64 44½	64 47½	205 59	211 0	210 27	208 27	
h — 20	S 23 E	75	65 56	65 58	207 10	211 47½	211 14½	211 27½	
h — 21	S 34 E	60	66 47	66 48	208 34½			212 11½	
h — 22	S 69 E	104	67 25	67 26½	212 50½			213 54½	
h — 23	S 83 E	93	67 15½	67 12½	216 52½	222 19	221 46	218 26½	
h — 24	S 58½ W	19	67 18½	67 17	216 27½	222 41½	222 15½	222 45	
h — 25	S 49 E	83	66 24	66 21½	219 9½			223 7	
h — 26	S 56 E	14	66 13½	66 14½	219 39	225 54½	225 28½	225 9½	
h — 27	S 80 E	25	65 53	65 53½	220 9	226 38½	226 12½	226 19½	
h — 28	S 9 W	92	64 23	64 18	219 47			227 3	
h — 29	S 11 E	111	62 32½	62 23	220 13	225 55	226 29	226 19	N
h — 30	S 30 W	84½	61 19½	61 5	218 49			225 22	
h — 31	S 11 W	83	59 59	59 40	218 11	224 47½	224 21½	225 11	N E.
1774									
h Jan 1	N 24 W	30	59 13	59 11½	217 46	223 47½	223 21½	224 10½	
h — 2	N 22 W	74	58 5	57 58	216 51	222 54	222 28	223 16½	
h — 3	N 50½ W	125	56 38	56 46½	214 11	220 25½	219 59½	220 48	
h — 4	N 16½ E	106	55 7	54 55½	215 8			221 22½	E.

ON BOARD THE RESOLUTION.

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1774.		Course.	Distance.	Miles.	Latitude South		Longitude East.				Swell Sea.
					By Account.	By Observation.	By Account.	By Watch K.	By Observation.	Corrected.	
Jan.	5.	N. 37 E.	94	53 40 $\frac{1}{2}$	53 43 $\frac{1}{2}$	216 41	222 11 $\frac{1}{2}$	221 45 $\frac{1}{2}$	222 33	E.	
	6.	N. 29 E.	89	52 25	51 59 $\frac{1}{2}$	218 17	224 24	225 0 $\frac{1}{2}$	224 45 $\frac{1}{2}$	E.	
	7.	N. 42 E.	113	50 35	50 36 $\frac{1}{2}$	220 21	226 35 $\frac{1}{2}$	226 55 $\frac{1}{2}$	226 56 $\frac{1}{2}$	E.	
	8.	N. 42 E.	111	49 14	49 7 $\frac{1}{2}$	222 25	228 52 $\frac{1}{2}$	228 56 $\frac{1}{2}$	229 13 $\frac{1}{2}$	E.	
	9.	N. 74 E.	161	48 23 $\frac{1}{2}$	48 17	226 42	232 44 $\frac{1}{2}$	233 13 $\frac{1}{2}$	233 5	E.	
	10.	N. 84 $\frac{1}{2}$ E.	97	48 7 $\frac{1}{2}$	48 7 $\frac{1}{2}$	229 6	235 2	235 30 $\frac{1}{2}$	235 22		
	11.	N. 42 E.	111	47 52 $\frac{1}{2}$	47 51 $\frac{1}{2}$	231 47	237 32 $\frac{1}{2}$	238 0 $\frac{1}{2}$	237 52 $\frac{1}{2}$		
	12.	S. 45 E.	145	49 34	49 34	234 22	240 3 $\frac{1}{2}$	240 32 $\frac{1}{2}$	240 23 $\frac{1}{2}$		
	13.	S. 21 E.	159	52 3	52 1 $\frac{1}{2}$	235 52			241 52 $\frac{1}{2}$		
	14.	S. 24 W.	125	53 56	53 55 $\frac{1}{2}$	234 28	240 8 $\frac{1}{2}$	240 37	240 27 $\frac{1}{2}$		
	15.	S. 28 W.	154	56 11	56 5	232 22			238 1	S. E.	
	16.	S. 74 E.	89		56 18 $\frac{1}{2}$	234 50	240 27	240 52 $\frac{1}{2}$	240 46 $\frac{1}{2}$		
	17.	S. 16 E.	147	58 39	58 34	235 57	241 37 $\frac{1}{2}$	242 3 $\frac{1}{2}$	241 57 $\frac{1}{2}$		
	18.	S. 15 E.	147	60 55 $\frac{1}{2}$	60 54 $\frac{1}{2}$	237 17	242 59 $\frac{1}{2}$	243 0 $\frac{1}{2}$	243 19 $\frac{1}{2}$		
	19.	S. 7 E.	57	61 52	61 50	237 32			243 28 $\frac{1}{2}$	E. S. E.	
	20.	S. 21 E.	49	62 37	62 34 $\frac{1}{2}$	238 9	243 38 $\frac{1}{2}$	243 43 $\frac{1}{2}$	243 59 $\frac{1}{2}$	S. E.	
	21.	N. 6 E.	7	62 27 $\frac{1}{2}$	62 26 $\frac{1}{2}$	238 11	243 25 $\frac{1}{2}$	243 30 $\frac{1}{2}$	243 46 $\frac{1}{2}$		
	22.	N. 77 E.	116	61 59	61 56	242 18			247 34 $\frac{1}{2}$		
	23.	S. 81 E.	80	62 12	62 22	245 0	249 35 $\frac{1}{2}$	249 40 $\frac{1}{2}$	249 57 $\frac{1}{2}$	N. N. E.	
	24.	S. 43 $\frac{1}{2}$ E.	104	63 37 $\frac{1}{2}$	63 37	247 37 $\frac{1}{2}$			252 12		
	25.	S. bW. $\frac{1}{2}$ W.	110 $\frac{1}{2}$	65 25	65 24 $\frac{1}{2}$	246 95	250 25	250 30	250 47 $\frac{1}{2}$		
	26.	S. 2 W.	63	66 28 $\frac{1}{2}$	66 35 $\frac{1}{2}$	246 29	250 17 $\frac{1}{2}$	250 22 $\frac{1}{2}$	250 40 $\frac{1}{2}$	S. W.	
	27.	S. 12 E.	79	67 53	67 51 $\frac{1}{2}$	247 11			251 30	S. W.	
	28.	S. 2 E.	100	69 31	69 30 $\frac{1}{2}$	247 20 $\frac{1}{2}$			251 47 $\frac{1}{2}$		
	29.	S. 34 E.	34	69 59 $\frac{1}{2}$	69 58 $\frac{1}{2}$	248 14	252 24	252 29	252 48		
Tacked from the ice.					71 7 $\frac{1}{2}$				253 1 $\frac{1}{2}$		
	30.	S. 17 E.	53	70 45	70 46	248 54			253 29		
	31.	N. 5 E.	95	69 11	69 13	249 18			253 53		
Feb.	1.	N. 21 E.	74	68 3	68 1	250 34	254 43 $\frac{1}{2}$	254 48 $\frac{1}{2}$	255 10 $\frac{1}{2}$	S. W.	
	2.	N. 33 E.	62	67 9	67 7 $\frac{1}{2}$	252 5			256 37		
	3.	N. 50 E.	65	66 25 $\frac{1}{2}$	66 25	254 9	258 26	258 31	258 36		
	4.	N. 32 E.	44	65 47 $\frac{1}{2}$	65 41 $\frac{1}{2}$	255 15	259 47 $\frac{1}{2}$	260 11 $\frac{1}{2}$	260 18 $\frac{1}{2}$		
	5.	N. 5 $\frac{1}{2}$ W.	99	64 4 $\frac{1}{2}$	64 5	254 53	259 36	260 0 $\frac{1}{2}$	260 9	S.	
	6.	N. 42 E.	17	63 52	63 53 $\frac{1}{2}$	255 14			261 11 $\frac{1}{2}$		
	7.	N. 2 E.	157 $\frac{1}{2}$	61 17	61 5 $\frac{1}{2}$	255 27	261 30	261 54 $\frac{1}{2}$	262 6		
	8.	North.	177	58 8 $\frac{1}{2}$	58 4	255 27			262 29		
	9.	N. $\frac{1}{2}$ W.	165	55 41 $\frac{1}{2}$	55 42	255 1			262 26		
	10.	N. $\frac{1}{2}$ E.	127	53 34	53 36 $\frac{1}{2}$	255 5	262 14	262 38 $\frac{1}{2}$	262 54 $\frac{1}{2}$		
	11.	N. 31 E.	134	51 42 $\frac{1}{2}$	51 37 $\frac{1}{2}$	256 59	263 52	264 16 $\frac{1}{2}$	264 34		
	12.	N. $\frac{1}{2}$ E.	81	50 16 $\frac{1}{2}$	50 15	257 6	263 54 $\frac{1}{2}$	264 19	264 38 $\frac{1}{2}$		
	13.	West.	32	50 16 $\frac{1}{2}$	50 12 $\frac{1}{2}$	256 34	263 15 $\frac{1}{2}$	263 39 $\frac{1}{2}$	264 0 $\frac{1}{2}$		
	14.	N. 13 E.	43	49 32	49 29	256 49	263 21 $\frac{1}{2}$	263 46	264 8 $\frac{1}{2}$	N. E.	
	15.	N. 33 W.	36	49 2	48 55	256 21	262 36	263 0 $\frac{1}{2}$	263 24		
	16.	N. 44 $\frac{1}{2}$ E.	100	47 42	47 55	258 7			265 3		
	17.	N. 28 E.	94	46 22	46 17 $\frac{1}{2}$	259 16	265 18 $\frac{1}{2}$	265 42 $\frac{1}{2}$	266 9 $\frac{1}{2}$		
	18.	N. 3 W.	123	44 15	44 10 $\frac{1}{2}$	259 7	265 13 $\frac{1}{2}$	266 1 $\frac{1}{2}$	266 5 $\frac{1}{2}$		

1774	Course	Dif tance, Miles	Latitude South		Longitude East				Swell fets
			By Ac- count	By Obser- vation	By Ac- count	By Watch h	By Obser- vation	Corrected	
Feb 19	N 22 W	137	42 3	42 5 1/2	257 53	264 3 1/2	264 7 1/2	264 57 1/2	N E
O 20	N 16 1/2 E	124	40 7 1/2	39 59 1/2	258 43	264 53 1/2	264 54 1/2	265 49 1/2	
21	N 19 E	130	37 56	37 53 1/2	259 38	265 26	266 17 1/2	266 23	
22	N 22 W	109	36 13	36 10 1/2	258 48	264 38 1/2	265 29 1/2	265 36 1/2	
23	S 71 W	107	36 45	36 41 1/2	256 44	262 26 1/2	263 18	263 25	
24	S 62 W	98	37 27	37 27 1/2	254 54	260 42 1/2	262 30 1/2	261 42	
25	S 78 W	124	37 52 1/2	37 53 1/2	252 24	258 25 1/2	260 14	259 20 1/2	
26	N 36 W	92	36 40	36 39 1/2	251 24	257 29 1/2	259 17	258 31	
O 27	N 11 W	101	35 0 1/2	34 54	250 59	256 52 1/2	256 41	257 55 1/2	
28	N 5 W	101	33 14	33 9	250 48	256 37	257 44	257 40	
March 1	N 8 W	55	32 15	32 17	250 39	256 23 1/2	257 52 1/2	257 20 1/2	
2	N 11 E	56	31 22 1/2	31 13 1/2	250 55	256 41 1/2	258 2 1/2	257 45 1/2	
3	N 44 E	44	30 42 1/2	30 36 1/2	251 31	257 22 1/2	258 29	258 26 1/2	
4	N 39 E	52	29 56	29 58 1/2	252 7	258 5 1/2	259 13	259 10 1/2	
5	N 55 E	24	29 44 1/2	29 44 1/2	252 29	258 21	259 1	259 27	
O 6	N 51 W	36	29 21	29 21 1/2	251 57	257 52	258 55 1/2	258 58 1/2	
7	N 40 W	81	28 19 1/2	28 19 1/2	250 59	256 44	257 54 1/2	257 51	
8	N 50 W	121	27 1	27 4	249 15	254 56 1/2	256 0 1/2	256 1 1/2	
9	S 89 W	106	27 6	27 6 1/2	247 16	252 59 1/2	254 35	254 7	
10	S 89 W	97	27 8 1/2	27 9 1/2	245 28	250 57 1/2	252 33 1/2	252 6 1/2	
11	S 88 W	52	27 11 1/2	27 10 1/2	244 30	249 48 1/2	251 23 1/2	250 57 1/2	
12	S 64 W	10	27 15 1/2	27 17 1/2	244 20			250 48	
Easter Island				27 8 1/2				250 8 1/2	
17	N 65 W	48	26 47 1/2	26 48	243 10	248 19	249 2 1/2	249 33	
18	N 45 W	60	26 5	26 4 1/2	242 23	247 29	248 55 1/2	248 44	
19	N 24 W	83	24 49 1/2	24 51 1/2	241 46	247 1 1/2	248 5 1/2	248 14 1/2	
O 20	N 13 W	113	23 1 1/2	23 1 1/2	241 18	246 14	247 18	247 32	
21	N 20 W	126	21 2 1/2	21 3 1/2	240 31	245 24 1/2	246 24	246 42	
22	N 24 W	111	19 21 1/2	19 21	239 43	244 22 1/2	245 20 1/2	245 41	
23	N 41 W	92	18 11	18 9 1/2	238 37	243 2 1/2	244 0 1/2	244 22 1/2	
24	N 43 W	78	17 13	17 6 1/2	237 34	241 56 1/2	242 54 1/2	243 17 1/2	
25	N 45 W	103	15 54	16 1 1/2	236 18	240 39 1/2	241 3 1/2	242 2	
O 26	N 45 W	112	14 42	14 45 1/2	234 55	239 13 1/2	240 1 1/2	240 37 1/2	
27	N 45 W	122	13 19 1/2	13 13 1/2	233 20	237 38 1/2	238 36 1/2	239 3 1/2	
28	N 45 W	123 1/2	11 45 1/2	11 45 1/2	231 50	236 2 1/2	237 0 1/2	237 28 1/2	
29	N 45 W	125	10 21 1/2	10 20 1/2	230 22	234 31 1/2	236 10 1/2	235 59	
30	N 65 W	121	9 29	9 22 1/2	228 19	232 35 1/2	234 4	233 54	
April 1	S 82 W	102	9 18 1/2	9 17 1/2	226 25	230 16 1/2	232 1 1/2	231 47 1/2	
2	S 89 W	90	9 31 1/2	9 29 1/2	224 43	228 21 1/2	229 51	229 53	
O 3	S 88 W	84	9 31 1/2	9 28 1/2	223 11	226 32 1/2	228 24 1/2	228 6	
4	S 89 W	96	9 33 1/2	9 32 1/2	221 46	224 49 1/2	226 57 1/2	226 24 1/2	
5	S 89 W	84	9 34	9 33 1/2	218 43	223 1 1/2	225 2 1/2	224 38 1/2	
6	N 80 W	71	9 21	9 19 1/2	217 32	220 2 1/2	221 57	221 0	
7	S 54 W	47	9 47 1/2	9 47 1/2	216 52	219 12 1/2	221 16	220 54 1/2	
Hood's Island				9 16				221 8	

1774.	Course.	Dist. Miles.	Latitude South		Longitude East			Corrected.	Swell sets.
			By Ac- count.	By Obser- vation.	By Ac- count.	By Watch K.	By Obser- vation.		
	Onateayo.			9 58				221 9	
	Ohevahoa.			9 40 $\frac{1}{2}$				220 58 $\frac{1}{2}$	
	Harbour in Ohitahoo.			9 55 $\frac{1}{2}$				220 51 $\frac{1}{2}$	
	La Magdalena.			10 25 $\frac{1}{2}$				221 11	
8 April 13	S. 37 W. 68	10 50 $\frac{1}{2}$	10 55 $\frac{1}{2}$	215 51 $\frac{1}{2}$	218 0	210 3 $\frac{1}{2}$	219 54 $\frac{1}{2}$		
14	S. 31 W. 102	12 23	12 24 $\frac{1}{2}$	214 56 $\frac{1}{2}$	217 2	219 5 $\frac{1}{2}$	218 57 $\frac{1}{2}$		
15	S. 49 W. 116	13 39 $\frac{1}{2}$	13 41 $\frac{1}{2}$	213 25 $\frac{1}{2}$	215 33 $\frac{1}{2}$	217 18 $\frac{1}{2}$	217 30 $\frac{1}{2}$		
16	S. 58 W. 68	14 17	14 17 $\frac{1}{2}$	212 25 $\frac{1}{2}$	214 18 $\frac{1}{2}$	216 3 $\frac{1}{2}$	216 16 $\frac{1}{2}$		
17	S. 81 W. 65	14 28	14 26 $\frac{1}{2}$	211 18 $\frac{1}{2}$	213 2 $\frac{1}{2}$	215 23	215 1 $\frac{1}{2}$		
	Isle Taoukaa.			14 30 $\frac{1}{2}$			214 50 $\frac{1}{2}$		
	The island by it.			14 38			214 39		
18	S. 45 $\frac{1}{2}$ W. 35	14 54 $\frac{1}{2}$	14 56 $\frac{1}{2}$	210 53 $\frac{1}{2}$	212 29 $\frac{1}{2}$	214 24	214 30 $\frac{1}{2}$		
19	S. 46 W. 54	15 35 $\frac{1}{2}$	15 38 $\frac{1}{2}$	210 8 $\frac{1}{2}$	211 28 $\frac{1}{2}$	213 28	213 30 $\frac{1}{2}$		
	Palliser's Isles			15 38 $\frac{1}{2}$			213 29 $\frac{1}{2}$		
20	S. 59 W. 51	16 44	16 4 $\frac{1}{2}$	209 21 $\frac{1}{2}$	210 31	212 30 $\frac{1}{2}$	212 34 $\frac{1}{2}$		
21	S. 40 W. 116	17 33 $\frac{1}{2}$	17 32 $\frac{1}{2}$	208 3 $\frac{1}{2}$	208 55 $\frac{1}{2}$	210 55 $\frac{1}{2}$	211 0		
	Point Venus.			17 29 $\frac{1}{2}$			210 23 $\frac{1}{2}$		
	Owharre Bay, N. part.			16 42 $\frac{1}{2}$			208 50 $\frac{1}{2}$		
	Ohamaneno Bay			16 45 $\frac{1}{2}$			208 23 $\frac{1}{2}$		
	Bolabola.			16 32 $\frac{1}{2}$			208 8 $\frac{1}{2}$		
	Maurua.			16 25 $\frac{1}{2}$			207 27 $\frac{1}{2}$		
June 5	S. 88 W. 54	16 46 $\frac{1}{2}$	16 48	207 28	207 19 $\frac{1}{2}$	207 10 $\frac{1}{2}$	207 27		
6	S. 88 W. 79	16 50	16 49 $\frac{1}{2}$	206 5	206 2 $\frac{1}{2}$	205 52 $\frac{1}{2}$	206 0 $\frac{1}{2}$		
	Flowe's Island.			16 46 $\frac{1}{2}$			205 53 $\frac{1}{2}$		
7	S. 75 W. 76	17 9 $\frac{1}{2}$	17 9 $\frac{1}{2}$	204 47	204 46	204 36 $\frac{1}{2}$	204 49		
8	S. 52 W. 40	17 33 $\frac{1}{2}$	17 32 $\frac{1}{2}$	204 14	204 6 $\frac{1}{2}$	203 57	204 11 $\frac{1}{2}$		
9	S. 85 W. 43	17 36 $\frac{1}{2}$	17 38 $\frac{1}{2}$	203 29	203 28 $\frac{1}{2}$	203 19 $\frac{1}{2}$	203 35 $\frac{1}{2}$		
10	S. 79 W. 46	17 47 $\frac{1}{2}$	17 48	202 41	202 48 $\frac{1}{2}$	202 39 $\frac{1}{2}$	202 57 $\frac{1}{2}$		
11	S. 78 W. 41	17 56 $\frac{1}{2}$	17 55 $\frac{1}{2}$	201 58	202 7 $\frac{1}{2}$	201 58 $\frac{1}{2}$	202 18 $\frac{1}{2}$		
12	S. 74 W. 75	18 16	18 10 $\frac{1}{2}$	200 43			200 56		
13	S. 71 W. 118	18 49	18 45 $\frac{1}{2}$	198 45	198 34 $\frac{1}{2}$	198 12 $\frac{1}{2}$	198 50		
14	N. 83 W. 74	18 36 $\frac{1}{2}$	18 35 $\frac{1}{2}$	197 27	197 7	197 58 $\frac{1}{2}$	197 25		
15	N. 58 W. 13	18 29	18 27 $\frac{1}{2}$	197 15	196 59 $\frac{1}{2}$	197 58 $\frac{1}{2}$	197 20		
16	N. 71 W. 36	18 15 $\frac{1}{2}$	18 11 $\frac{1}{2}$	196 40	196 35 $\frac{1}{2}$	197 49 $\frac{1}{2}$	196 58 $\frac{1}{2}$		
	Palmerston's Island.			18 0			197 3		
17	N. 84 W. 69	18 4 $\frac{1}{2}$	18 2 $\frac{1}{2}$	195 28	195 20 $\frac{1}{2}$	196 10 $\frac{1}{2}$	195 44 $\frac{1}{2}$		
18	S. 82 W. 77	18 14	18 12	194 8	193 54 $\frac{1}{2}$	194 45 $\frac{1}{2}$	194 21		
19	S. 79 W. 80	18 29 $\frac{1}{2}$	18 25	192 45	192 20 $\frac{1}{2}$	192 35 $\frac{1}{2}$	192 49		
20	S. 77 W. 104	18 48 $\frac{1}{2}$	18 49 $\frac{1}{2}$	90 58	190 37 $\frac{1}{2}$	190 47 $\frac{1}{2}$	191 9		
21	S. 70 W. 43	19 4	18 57 $\frac{1}{2}$	190 16	189 54	190 28 $\frac{1}{2}$	190 26		
	Savage Island.			19 2 $\frac{1}{2}$			190 29 $\frac{1}{2}$		
22	S. 59 W. 48	19 21 $\frac{1}{2}$	19 23 $\frac{1}{2}$	189 32	189 15 $\frac{1}{2}$	189 57 $\frac{1}{2}$	189 48 $\frac{1}{2}$		
23	S. 67 $\frac{1}{2}$ W. 89	19 57	19 49 $\frac{1}{2}$	188 5	187 52	188 53 $\frac{1}{2}$	188 25		
24	S. 76 W. 107	20 14 $\frac{1}{2}$	20 24 $\frac{1}{2}$	186 14	185 59	187 0 $\frac{1}{2}$	186 32		
25	N. 87 W. 25	20 23 $\frac{1}{2}$	20 20	185 48	185 23 $\frac{1}{2}$	186 24 $\frac{1}{2}$	185 56 $\frac{1}{2}$		
26	S. 53 W. 15	20 28	20 23 $\frac{1}{2}$	185 35	185 0 $\frac{1}{2}$	186 1 $\frac{1}{2}$	185 32 $\frac{1}{2}$		

1774	Courf	Dif tance	Latitude		Longitude				Co dud	Sw ll t
			By Ac count	By Ob servation	By Ac count	By Wit h	By Ob servation			
		Wiles								
	Island									
	Tallageo			20 31 ¹ / ₄					185 30 ¹ / ₄	
	Tonamal			20 28					195 28 ¹ / ₄	
	Cominango			20 19 ¹ / ₄					185 31 ¹ / ₄	
	Cominango ette			20 18 ¹ / ₄					185 32	
	Annamocka			20 16					185 29 ¹ / ₄	
	Annamocka ette			20 17 ¹ / ₄					185 27	
	Aggoau			19 39 ¹ / ₄					185 17	
	Mattafoa			19 44 ¹ / ₄					185 13	
	Others extend from			19 37 ¹ / ₄					185 10	
	to			20 32 ¹ / ₄					185 50	
June 29	North	5	20 10	20 5 ¹ / ₄	185 32 ¹ / ₄		185 2 ¹ / ₄	185 31 ¹ / ₄		
July 1	S 88 W	85	19 52	19 51 ¹ / ₄	185 14 ¹ / ₄		184 33	184 33 ¹ / ₄		
July 2	S 84 W	82	20 2 ¹ / ₄	20 3 ¹ / ₄	183 44	183 26 ¹ / ₄	182 52 ¹ / ₄	183 58 ¹ / ₄		
July 3	N 40 W	19	19 48 ¹ / ₄	19 47	182 17	181 48	181 52 ¹ / ₄	182 20		
	Turtle Island			19 48 ¹ / ₄	182 4 ¹ / ₄	181 31 ¹ / ₄	181 56	182 3		
	Reef off it			19 53 ¹ / ₄				182 3		
July 4	S 48 W	29	20 6	20 4 ¹ / ₄	181 41 ¹ / ₄	181 17	181 48 ¹ / ₄	181 33 ¹ / ₄		
July 5	S 62 W	74	20 40	20 28 ¹ / ₄	180 30 ¹ / ₄	179 52 ¹ / ₄	180 33 ¹ / ₄	180 21 ¹ / ₄		
July 6	S 72 W	63	20 58 ¹ / ₄	20 55 ¹ / ₄	179 27	178 42 ¹ / ₄	179 23 ¹ / ₄	179 14		
July 7	N 86 W	54	20 51	20 50 ¹ / ₄	178 10	177 50	178 31 ¹ / ₄	178 21 ¹ / ₄		
July 8	N 77 W	65	20 36 ¹ / ₄	20 36 ¹ / ₄	177 23	176 44	177 25 ¹ / ₄	177 15 ¹ / ₄		
July 9	N 71 W	59	20 23 ¹ / ₄	20 23 ¹ / ₄	176 23	175 41	176 22 ¹ / ₄	176 1		
July 10	N 47 W	47	19 51	19 53 ¹ / ₄	175 46	174 57 ¹ / ₄	175 39 ¹ / ₄	175 29		
July 11	N 24 W	96	18 26	18 26 ¹ / ₄	175 4	174 25 ¹ / ₄	175 7 ¹ / ₄	174 57		
July 12	N 52 W	85	17 19	17 20 ¹ / ₄	174 8	173 37 ¹ / ₄	174 18 ¹ / ₄	174 9		
July 13	N 41 W	70	16 27 ¹ / ₄	16 25 ¹ / ₄	173 20	172 51 ¹ / ₄	173 28 ¹ / ₄	173 23 ¹ / ₄		
July 14	N 45 W	60	15 43	15 39 ¹ / ₄	172 35	172 0 ¹ / ₄	172 24	172 32 ¹ / ₄		
July 15	N 65 W	69	15 10 ¹ / ₄	15 9 ¹ / ₄	171 30	170 47 ¹ / ₄	171 26 ¹ / ₄	171 20 ¹ / ₄		
July 16	S 89 W	121	15 11 ¹ / ₄	15 5	169 25	168 40 ¹ / ₄	169 18 ¹ / ₄	169 13 ¹ / ₄		
July 17	N 81 W	28	15 0 ¹ / ₄	14 59 ¹ / ₄	168 56			168 42		
July 18	S 83 W	34	15 4 ¹ / ₄	15 1 ¹ / ₄	168 21	167 31 ¹ / ₄	168 10 ¹ / ₄	168 1		
July 19	S 3 W	24	15 24 ¹ / ₄	15 12 ¹ / ₄	168 18	167 37 ¹ / ₄	168 16 ¹ / ₄	168 11		
	Aurora, { North End		14 52					168 13		
	{ South End		15 24					168 20 ¹ / ₄		
	Leper's Island, { N E End		15 16 ¹ / ₄					168 10 ¹ / ₄		
	{ S W End		15 30					167 45 ¹ / ₄		
July 20	S 6 ¹ / ₂ E	15	15 18 ¹ / ₄	15 28 ¹ / ₄	168 32	167 41 ¹ / ₄	168 24 ¹ / ₄	168 15 ¹ / ₄		
July 21	S 22 W	39	16 4 ¹ / ₄	16 17 ¹ / ₄	168 12	167 27	168 9 ¹ / ₄	168 1 ¹ / ₄		
	Whitfun Idle Isle, { N End		15 28 ¹ / ₄					168 21 ¹ / ₄		
	{ S End		16 0 ¹ / ₄					168 19		
	Ambrym, { N E End		16 4					168 21 ¹ / ₄		
	{ W End		16 15					168 3 ¹ / ₄		
	Sandwich Harbour		16 25 ¹ / ₄					167 53		
July 3	Cape Sandwich		16 24 ¹ / ₄		167 21 ¹ / ₄	168 13 ¹ / ₄		167 57 ¹ / ₄		
	Maskelyne's Islands, {		16 28					167 59		
			16 30					167 58 ¹ / ₄		
			16 33 ¹ / ₄					168 1 ¹ / ₄		

1774.	Course.	Dis- tance. Miles.	Latitude South		Longitude East				Swell sea.	
			By Ac- count.	By Obser- vation.	By Ac- count.	By Watch K.	By Obser- vation.	Corrected.		
o July 24.	Maskelyne's Islands, {		16	32 $\frac{1}{2}$				167	59 $\frac{1}{2}$	
			16	33				167	57 $\frac{1}{2}$	
	Paoom. {		16	30				168	28 $\frac{1}{2}$	
	S. 23 E. 26 16 48		16	59	168 27			168	26 $\frac{1}{2}$	
	Apæ; { South East End.		16	53 $\frac{1}{2}$				168	37	
	{ North West End.		16	39				168	18	
	Three-Hill Island.		17	4				168	35	
	Its western Hummock.		17	5				168	32	
	Reef of its West End.		17	8 $\frac{1}{2}$				168	28 $\frac{1}{2}$	
			16	56				168	41 $\frac{1}{2}$	
			16	52				168	42	
	Shepherd's Islands, {		16	58				168	43 $\frac{1}{2}$	
			17	1				168	42	
			17	1 $\frac{1}{2}$				168	43 $\frac{1}{2}$	
			17	3 $\frac{1}{2}$				168	43	
	One-Hill Island.		17	7 $\frac{1}{2}$				168	36	
	Two-Hill Island.		17	13				168	35 $\frac{1}{2}$	
	The Monument.		17	14 $\frac{1}{2}$				168	38 $\frac{1}{2}$	
d — 25.	S. 26 E. 31 17 15 $\frac{1}{2}$		17	18 $\frac{1}{2}$	168 42	168 1 $\frac{1}{2}$	168 53 $\frac{1}{2}$	168	37 $\frac{1}{2}$	
d — 26.	S. 38 E. 14 17 29		17	31	168 53	168 0	168 52	168	41	
	Sandwich's Island from {		17	29				168	20 $\frac{1}{2}$	
			17	53				168	45 $\frac{1}{2}$	
	Hinchinbrook Island.		17	25				168	38	
	Montagu Island.		17	26				168	31 $\frac{1}{2}$	
d — 27.	S. 58 E. 55 18 0 $\frac{1}{2}$		18	0 $\frac{1}{2}$	169 42	168 42	169 42 $\frac{1}{2}$	169	19 $\frac{1}{2}$	
d — 28.	S. 56 E. 47 18 26 $\frac{1}{2}$		18	24 $\frac{1}{2}$	170 22	169 9 $\frac{1}{2}$	169 30 $\frac{1}{2}$	169	47 $\frac{1}{2}$	
d — 29.	S. 50 E. 14 18 34 $\frac{1}{2}$		18	30 $\frac{1}{2}$	170 34	169 28	170 15 $\frac{1}{2}$	170	6 $\frac{1}{2}$	
d — 30.	S. 72 W. 34 18 41		18	33 $\frac{1}{2}$	170 0	169 1 $\frac{1}{2}$	169 49 $\frac{1}{2}$	169	42 $\frac{1}{2}$	
d — 31.	N. 27 W. 13 18 22 $\frac{1}{2}$		18	21	169 53	168 55 $\frac{1}{2}$	169 20 $\frac{1}{2}$	169	34 $\frac{1}{2}$	
d Aug. 1.	S. 46 W. 33 18 44		18	31 $\frac{1}{2}$	169 28	168 33 $\frac{1}{2}$	169 0	169	13 $\frac{1}{2}$	
d — 2.	S. 50 W. 15 18 46 $\frac{1}{2}$		18	46 $\frac{1}{2}$	169 16	168 26	169 10 $\frac{1}{2}$	169	2 $\frac{1}{2}$	
	Traitor's Head.		18	43 $\frac{1}{2}$				169	20 $\frac{1}{2}$	
	Small Island off it.		18	41				169	26	
	Erramanga from {		18	36 $\frac{1}{2}$				169	9	
			18	56 $\frac{1}{2}$				169	28	
d — 3.	N. 70 E. 22 18 38		18	36 $\frac{1}{2}$	169 38	168 47 $\frac{1}{2}$	169 17 $\frac{1}{2}$	169	18 $\frac{1}{2}$	
	Tanna from {		19	16 $\frac{1}{2}$				169	21	
			19	38 $\frac{1}{2}$				169	43	
	Port Resolution, in Tanna.		19	32 $\frac{1}{2}$				169	44 $\frac{1}{2}$	
	Immer.		19	16				169	46	
	Irraname.		19	31				170	21	
	Enatum.		20	10				170	4	
d — 20.			19	24				169	46	
d — 21.	S. 79 E. 32 19 32 $\frac{1}{2}$		19	33 $\frac{1}{2}$	170 11	169 18 $\frac{1}{2}$	170 29	170	4 $\frac{1}{2}$	
d — 22.	N. 50 W. 97 18 19 $\frac{1}{2}$		18	18 $\frac{1}{2}$	169 4	168 0 $\frac{1}{2}$	169 11 $\frac{1}{2}$	168	47 $\frac{1}{2}$	
d — 23.	N. 28 W. 133 16 21		16	23 $\frac{1}{2}$	167 59	166 49 $\frac{1}{2}$	168 0 $\frac{1}{2}$	167	35 $\frac{1}{2}$	

[illegible]

1774.	Course.	Dis- tance.	Latitude South.		Longitude East.				Ship rolls.	Swell sets.
			By Ac- count.	By Obser- vation.	By Ac- count.	By Watch K.	By Obser- vation.	Corrected.		
h Oct. 1.	S. 66 E.	58	22 58	22 56 $\frac{1}{2}$	169 43	167 33 $\frac{1}{2}$	168 30 $\frac{1}{2}$	168 18 $\frac{1}{2}$		N. E. N. E.
o — 2.	S. 26 E.	52	23 19 $\frac{1}{2}$	23 19 $\frac{1}{2}$	170 33	168 47 $\frac{1}{2}$	169 56 $\frac{1}{2}$	169 32 $\frac{1}{2}$		
h — 3.	S. 28 E.	68	24 19 $\frac{1}{2}$	24 4 $\frac{1}{2}$	170 59	169 27 $\frac{1}{2}$	170 36 $\frac{1}{2}$	170 13 $\frac{1}{2}$		
h — 4.	S. 26 E.	81	25 17	25 28	171 44	170 31	171 40 $\frac{1}{2}$	171 17 $\frac{1}{2}$		
h — 5.	S. 9 E.	87	26 53 $\frac{1}{2}$	26 53	171 59	170 50 $\frac{1}{2}$	172 0	171 37 $\frac{1}{2}$		
h — 6.	S. 4 E.	62	27 54 $\frac{1}{2}$	27 52	172 3 $\frac{1}{2}$	170 58 $\frac{1}{2}$	172 4 $\frac{1}{2}$	171 45 $\frac{1}{2}$		
h — 7.	S. 79 W.	3	27 52 $\frac{1}{2}$	27 52	172 0 $\frac{1}{2}$	170 57	172 3	171 45		
h — 8.	S. 62 W.	71	28 25 $\frac{1}{2}$	28 24 $\frac{1}{2}$	170 49	169 42 $\frac{1}{2}$	171 3 $\frac{1}{2}$	170 31		
o — 9.	S. 58 W.	63	28 58	28 54 $\frac{1}{2}$	169 48	168 35 $\frac{1}{2}$	168 57 $\frac{1}{2}$	169 24 $\frac{1}{2}$		
h — 10.	S. 88 W.	57	28 58	28 57 $\frac{1}{2}$	168 42	167 21	168 14 $\frac{1}{2}$	168 10		
Norfolk Island.				29 1 $\frac{1}{2}$				168 10		
h — 11.	S. 11 E.	23	29 20	29 21 $\frac{1}{2}$	168 47	167 19 $\frac{1}{2}$	167 41 $\frac{1}{2}$	168 8		
h — 12.	South.	100.7	31 1 $\frac{1}{2}$	31 1 $\frac{1}{2}$	168 47	167 2 $\frac{1}{2}$	167 30 $\frac{1}{2}$	167 50 $\frac{1}{2}$		
h — 13.	S. 15 E.	106	32 43 $\frac{1}{2}$	32 54 $\frac{1}{2}$	169 21	167 35	168 26	168 22 $\frac{1}{2}$		
h — 14.	S. 39 E.	87	34 2	34 2 $\frac{1}{2}$	170 26	168 41 $\frac{1}{2}$	169 17 $\frac{1}{2}$	169 28 $\frac{1}{2}$		
h — 15.	S. 41 E.	119	35 32	35 32	172 2	170 11 $\frac{1}{2}$	170 47 $\frac{1}{2}$	170 56 $\frac{1}{2}$		
o — 16.	S. 34 E.	140	37 28	37 33	173 42	171 55 $\frac{1}{2}$	172 31 $\frac{1}{2}$	172 40 $\frac{1}{2}$		
h — 17.	S. 28 E.	120	39 19	39 24	174 57	173 1 $\frac{1}{2}$	173 36 $\frac{1}{2}$	173 45 $\frac{1}{2}$		
Q. Charlotte's Sound.				41 6				174 18 $\frac{1}{2}$		
It being a matter curious in itself, and perhaps of some use, to know the greatest angle which a ship lies down to, when going on a wind, or that she rolls when going before it in a high sea, I contrived, whilst in the Sound, to fix a graduated circle to one of the beams of the ship that passed through my cabin: an axis, passing through the center, carried a long slender rod, which had a pretty large leaden ball fixed to its lower end, whilst the upper end, above the center, served as an index to point out the degree which the ship rolled to, on the circle. The axis moved smoothly in its socket, and just free enough to let the ball turn it as the ship rolled. The upper end of the rod was adjusted to point exactly to O when the ship was upright in the Sound, and for the remainder of this Journal I have added another column, wherein is inserted the degrees to which, at different times, I observed the above-mentioned index point to.										
h Nov. 11.	S. 33 E.	69	42 20 $\frac{1}{2}$	42 21 $\frac{1}{2}$	175 29	175 22 $\frac{1}{2}$	174 54 $\frac{1}{2}$	175 15 $\frac{1}{2}$		
h — 12.	S. 22 E.	64	43 20 $\frac{1}{2}$	43 13 $\frac{1}{2}$	176 2	175 50 $\frac{1}{2}$	175 27 $\frac{1}{2}$	175 43 $\frac{1}{2}$		
o — 13.	S. 39 E.	83	44 18	44 32	177 14	177 13	176 50 $\frac{1}{2}$	177 6		
h — 14.	S. 41 E.	108	45 39 $\frac{1}{2}$	46 7 $\frac{1}{2}$	178 54			178 52	14	
h — 15.			47 5	47 47 $\frac{1}{2}$	181 15 $\frac{1}{2}$	181 11 $\frac{1}{2}$	180 49 $\frac{1}{2}$	181 4 $\frac{1}{2}$	09	
h — 16.	S. 42 E.	124	49 19 $\frac{1}{2}$	49 33 $\frac{1}{2}$	183 39 $\frac{1}{2}$	183 26 $\frac{1}{2}$	183 4 $\frac{1}{2}$	183 19 $\frac{1}{2}$	23	
It was this afternoon discovered, that the preceding differences between the log and observed latitudes were owing to the log-line having been marked, by mistake, a whole knot wrong: Corrected it.										
h — 17.	S. 41 E.	127	51 8 $\frac{1}{2}$	51 10 $\frac{1}{2}$	185 50 $\frac{1}{2}$	185 57 $\frac{1}{2}$	185 35 $\frac{1}{2}$	185 50	40 $\frac{1}{2}$	
h — 18.	S. 50 E.	141	52 39	52 44 $\frac{1}{2}$	188 45 $\frac{1}{2}$	188 58 $\frac{1}{2}$	188 36 $\frac{1}{2}$	188 50 $\frac{1}{2}$		
h — 19.	S. 64 $\frac{1}{2}$ E.	137	53 44 $\frac{1}{2}$	53 41 $\frac{1}{2}$	192 21 $\frac{1}{2}$			192 53		
o — 20.	S. 76 E.	134	54 13	54 12 $\frac{1}{2}$	196 4 $\frac{1}{2}$			197 2 $\frac{1}{2}$	14 $\frac{1}{2}$	
h — 21.	S. 30 E.	101	55 40	55 39	197 34 $\frac{1}{2}$			198 59		
h — 22.	S. 85 E.	118	55 50 $\frac{1}{2}$	55 48 $\frac{1}{2}$	201 4 $\frac{1}{2}$	203 4 $\frac{1}{2}$	192 42 $\frac{1}{2}$	202 55 $\frac{1}{2}$	30	

1774	Course	Distance Miles	Latitude South		Integral Fall				Ship roll	Swell (1)
			By Ac count	By Obser vation	By Ac count	By Watch h.	By Obser vation	Corrected		
Nov 23	N 82 E	45	55 42	55 42 $\frac{1}{2}$	202 24 $\frac{1}{2}$	204 49	201 26 $\frac{1}{2}$	201 39 $\frac{1}{2}$	33	
24	N 86 E	80	55 37	55 32 $\frac{1}{2}$	204 47	207 18 $\frac{1}{2}$	06 56 $\frac{1}{2}$	07 9 $\frac{1}{2}$	10	
25	N 80 E	141	55 7 $\frac{1}{2}$	55 9 $\frac{1}{2}$	208 49	211 55 $\frac{1}{2}$	11 32	11 15 $\frac{1}{2}$	14	
26	N 89 E	168	55 6 $\frac{1}{2}$	55 6	213 42			16 53	15	
27	N 89 E	183	55 2 $\frac{1}{2}$	55 3	219 2	223 38	-2 15 $\frac{1}{2}$	22 27 $\frac{1}{2}$	13	
28	S 82 E	166	55 24	55 25 $\frac{1}{2}$	223 40			27 14 $\frac{1}{2}$		
29	N 88 E	153	55 18 $\frac{1}{2}$	55 22	228 10			31 5 $\frac{1}{2}$	31	
30	S 78 E	39	55 26 $\frac{1}{2}$	55 31 $\frac{1}{2}$	229 17			-13 7 $\frac{1}{2}$		
Dec 1	N 88 E	56	55 29 $\frac{1}{2}$	55 32	231 3			35 2	13	
2	N 64 $\frac{1}{2}$ E	90	54 50 $\frac{1}{2}$	54 55 $\frac{1}{2}$	233 26	237 44 $\frac{1}{2}$	237 22 $\frac{1}{2}$	37 33 $\frac{1}{2}$		
3	N 38 E	70	54 0 $\frac{1}{2}$	54 0 $\frac{1}{2}$	234 41			38 38	18	NN
4	N 69 $\frac{1}{2}$ E	117	53 19	53 16 $\frac{1}{2}$	237 49	241 49 $\frac{1}{2}$	241 25 $\frac{1}{2}$	11 16 $\frac{1}{2}$		
5	N 87 E	129	53 8 $\frac{1}{2}$	53 7 $\frac{1}{2}$	241 23 $\frac{1}{2}$	245 22 $\frac{1}{2}$	245 0	245 10 $\frac{1}{2}$		
6	S 89 E	168	53 11	53 10 $\frac{1}{2}$	246 3 $\frac{1}{2}$	249 32 $\frac{1}{2}$	249 10 $\frac{1}{2}$	219 20 $\frac{1}{2}$	38	
7	S 86 E	120	53 19	53 19 $\frac{1}{2}$	249 23	252 45	252 17 $\frac{1}{2}$	252 32 $\frac{1}{2}$		
8	S 84 E	99	53 29 $\frac{1}{2}$	53 31	252 7	255 21	255 1 $\frac{1}{2}$	255 11		N L
9	S 89 L	76	53 32 $\frac{1}{2}$	53 37 $\frac{1}{2}$	254 17			257 17	14	W
10	S 70 E	64	53 59 $\frac{1}{2}$	53 53 $\frac{1}{2}$	255 58	259 6 $\frac{1}{2}$	258 44 $\frac{1}{2}$	253 53		
11	N 87 E	180	53 49 $\frac{1}{2}$	53 37 $\frac{1}{2}$	261 3	264 2 $\frac{1}{2}$	263 41	263 40		
12			53 42	53 24 $\frac{1}{2}$	265 2	268 4 $\frac{1}{2}$	267 30	67 50		
13	N 89 E	74	53 24	53 23 $\frac{1}{2}$	267 5	270 9 $\frac{1}{2}$	270 39	269 55 $\frac{1}{2}$		
14	S 89 E	127 3	53 26	53 25 $\frac{1}{2}$	270 41	273 27 $\frac{1}{2}$	273 57 $\frac{1}{2}$	273 13 $\frac{1}{2}$		
15	S 87 E	120	53 31 $\frac{1}{2}$	53 30 $\frac{1}{2}$	274 5	276 49 $\frac{1}{2}$	277 19 $\frac{1}{2}$	276 35		
16	N 88 E	132 $\frac{1}{2}$	53 25 $\frac{1}{2}$	53 26 $\frac{1}{2}$	277 50	280 32 $\frac{1}{2}$	281 2 $\frac{1}{2}$	280 18 $\frac{1}{2}$		
17	N 88 $\frac{1}{2}$ L	118	53 24 $\frac{1}{2}$	53 21 $\frac{1}{2}$	281 4	283 41 $\frac{1}{2}$	284 11	283 26 $\frac{1}{2}$		
18	S Cape Disceada			53 4 $\frac{1}{2}$				285 42		
19	S Cape Noir	72 E 114	53 57	54 12 $\frac{1}{2}$	284 9	286 47 $\frac{1}{2}$	287 16 $\frac{1}{2}$	286 31 $\frac{1}{2}$		
20	S 55 E	100	55 10 $\frac{1}{2}$	55 20 $\frac{1}{2}$	286 29	289 16 $\frac{1}{2}$	289 45 $\frac{1}{2}$	289 0 $\frac{1}{2}$		
21	S 67 E	36	55 39 $\frac{1}{2}$	55 39 $\frac{1}{2}$	287 22	290 7 $\frac{1}{2}$	290 36 $\frac{1}{2}$	289 51 $\frac{1}{2}$		
22	Christmas Sound			55 22				289 59 $\frac{1}{2}$		
23				55 32 $\frac{1}{2}$	287 44 $\frac{1}{2}$	290 26 $\frac{1}{2}$	290 18 $\frac{1}{2}$	290 5 $\frac{1}{2}$		
24	St Ildefonso's Isles			55 51				290 32		
25	Cape Horn			55 59				292 34		
26	Barnevelt's Isles			55 49				293 2		
27	Evout's Isles			55 34 $\frac{1}{2}$				293 1		
28				55 43 $\frac{1}{2}$	290 32	293 44 $\frac{1}{2}$	293 36 $\frac{1}{2}$	293 24 $\frac{1}{2}$		
29	S 78 E	92	55 43 $\frac{1}{2}$	55 43 $\frac{1}{2}$	290 56	295 20 $\frac{1}{2}$	295 13 $\frac{1}{2}$	294 59 $\frac{1}{2}$		
30	N 26 E	26	55 20 $\frac{1}{2}$	54 53				294 33		
31	Cape Success			55 1				294 35		
	Success Bay			54 49 $\frac{1}{2}$				295 13 $\frac{1}{2}$		
	East Cape of Staten Land			54 53 $\frac{1}{2}$						
	Cape St Anthony			54 46 $\frac{1}{2}$						
	Cape St. Diego,			54 33						
	N 08 E	23	54 52 $\frac{1}{2}$	54 42 $\frac{1}{2}$	291 46	296 4 $\frac{1}{2}$	295 56 $\frac{1}{2}$	294 46		
								295 43 $\frac{1}{2}$		

ON BOARD THE RESOLUTION.

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1774	Course.	Distance.	Latitude South		Longitude East.				Ship rolls.	Swell sets.	
			By Account.	By Observation.	By Account.	By Watch K.	By Observation.	Corrected.			
		Miles.									
1775.											
Jan.											
3	S. 8 W.	19	55 3	54 55 $\frac{1}{2}$	291 48	296 15	296 7 $\frac{1}{2}$	295 54	N. E.		
4	S. 51 E.	75	55 42 $\frac{1}{2}$	55 32 $\frac{1}{2}$	293 31	298 12 $\frac{1}{2}$	298 4 $\frac{1}{2}$	297 51 $\frac{1}{2}$			
5	S. 49 E.	138	57 3 $\frac{1}{2}$	57 8 $\frac{1}{2}$	296 50	301 47 $\frac{1}{2}$	301 40 $\frac{1}{2}$	301 26 $\frac{1}{2}$			
6	S. 70 E.	118	57 49	57 51 $\frac{1}{2}$	300 17	305 40 $\frac{1}{2}$	305 2	305 19 $\frac{1}{2}$			
7	N. 46 E.	63	57 7 $\frac{1}{2}$	57 0 $\frac{1}{2}$	301 54	307 11 $\frac{1}{2}$	306 47	306 50 $\frac{1}{2}$	15 S. W.		
Sounded: no ground with 150 fathoms.											
8	N. 26 E.	94	55 32 $\frac{1}{2}$	55 8 $\frac{1}{2}$	303 11	308 19 $\frac{1}{2}$	307 37 $\frac{1}{2}$	307 58 $\frac{1}{2}$			
9	S. 88 E.	71	55 10 $\frac{1}{2}$	55 11 $\frac{1}{2}$	305 18			310 13 $\frac{1}{2}$			
10	N. 49 E.	50	54 40	54 35 $\frac{1}{2}$	306 32			311 36 $\frac{1}{2}$			
11	S. 87 E.	108	54 41 $\frac{1}{2}$	54 36 $\frac{1}{2}$	309 39 $\frac{1}{2}$	315 15 $\frac{1}{2}$	314 32 $\frac{1}{2}$	314 54 $\frac{1}{2}$			
12	N. 85 E.	79	54 29 $\frac{1}{2}$	54 28 $\frac{1}{2}$	311 56 $\frac{1}{2}$			317 10 $\frac{1}{2}$			
13	S. 52 E.	62	55 6 $\frac{1}{2}$	55 0 $\frac{1}{2}$	313 20 $\frac{1}{2}$			318 32 $\frac{1}{2}$			
14	N. 52 E.	86	54 14	53 56 $\frac{1}{2}$	315 15 $\frac{1}{2}$	320 46 $\frac{1}{2}$	320 4 $\frac{1}{2}$	320 25 $\frac{1}{2}$			
Sounded several times, and had 175 and 120: bottom mud.											
15	S. 39 E.	44	54 30 $\frac{1}{2}$	54 29 $\frac{1}{2}$	316 2 $\frac{1}{2}$			321 7 $\frac{1}{2}$			
Sounded: 110 fathoms, the bottom mud.											
16	N. 82 E.	24	54 27	54 25 $\frac{1}{2}$	316 43	322 2 $\frac{1}{2}$	321 20	321 41 $\frac{1}{2}$			
Willis's Isles.											
Cape North.											
Cape Buller.											
17	N. 63 E.	41	54 6 $\frac{1}{2}$	54 0 $\frac{1}{2}$	317 44	323 4 $\frac{1}{2}$	322 21 $\frac{1}{2}$	322 43 $\frac{1}{2}$			
Cape Saunders.											
Cape George.											
Cape Charlotte.											
18	S. 59 E.	59	54 31 $\frac{1}{2}$	54 30 $\frac{1}{2}$	319 12	324 30 $\frac{1}{2}$	323 47 $\frac{1}{2}$	324 9 $\frac{1}{2}$			
Sounded: 80 fathoms; bottom mud.											
19	S. 7 E.	17	54 47	54 42 $\frac{1}{2}$	319 15	324 32 $\frac{1}{2}$	323 49 $\frac{1}{2}$	324 11 $\frac{1}{2}$			
The Lurker, off Sandwich Bay.											
Cooper's Island.											
20	S. 35 W.	23	55 2	55 3 $\frac{1}{2}$	318 53	324 9 $\frac{1}{2}$	323 26 $\frac{1}{2}$	323 48 $\frac{1}{2}$	39		
Sounded: no ground with 120 fathoms.											
Cape Disappointment.											
Green Isles.											
Pickertgill's Island.											
Clerke's Isles.											
21	S. 75 E.	48	55 16 $\frac{1}{2}$	55 16 $\frac{1}{2}$	320 13	325 43 $\frac{1}{2}$	325 0 $\frac{1}{2}$	325 22 $\frac{1}{2}$			
22	N. 32 E.	21	54 59	54 59 $\frac{1}{2}$	320 32			325 36 $\frac{1}{2}$			
23	S. 63 W.	15	55 5 $\frac{1}{2}$	55 6 $\frac{1}{2}$	320 9			325 8 $\frac{1}{2}$			
Sounded: and had 60 and 75 fathoms; bottom shells.											
24	N. 54 E.	10	54 59 $\frac{1}{2}$	55 1	320 24			325 18 $\frac{1}{2}$			

1775	Course	Distance	Latitude South		Longitude East				Ship rolls	Swell	
			By Account	By Observation	By Account	By Watch K	By Observation	Corrected			
	°	Miles									
Jan 25	S 44 E	81	55 57 $\frac{3}{4}$	56 0 $\frac{1}{2}$	322 2 $\frac{1}{2}$	327 12 $\frac{1}{2}$	326 29	326 51 $\frac{1}{2}$			
26	S 41 E	111	57 23 $\frac{3}{4}$	57 38 $\frac{1}{2}$	324 14 $\frac{1}{2}$	329 18 $\frac{1}{2}$	329 13	328 57 $\frac{1}{2}$			
27	South	123	59 41 $\frac{1}{2}$	59 44	324 14 $\frac{1}{2}$	329 21 $\frac{1}{2}$	329 16 $\frac{1}{2}$	329 0 $\frac{1}{2}$			
	Sounded	No ground with 140 fathoms									
28	S 59 E	33	59 58 $\frac{1}{2}$	60 5 $\frac{1}{2}$	324 56 $\frac{1}{2}$	330 55 $\frac{1}{2}$	330 50 $\frac{1}{2}$	330 84 $\frac{1}{2}$			
29	N 58 W	13	59 57	60 1 $\frac{1}{2}$	324 31 $\frac{1}{2}$			330 13 $\frac{1}{2}$			
30	N 30 E	31	59 34 $\frac{1}{2}$	59 34	325 2 $\frac{1}{2}$			330 49 $\frac{1}{2}$			
	Friesland's Peak		59 2					333 4			
	Cape Bristol		59 2 $\frac{1}{2}$					333 9			
	South Thule		59 34					332 15			
31	N 69 E	59	59 13 $\frac{1}{2}$	59 12 $\frac{1}{2}$	326 48 $\frac{1}{2}$	333 1 $\frac{1}{2}$	332 56	332 40 $\frac{1}{2}$			
Feb 1	N 3 E	46	58 26 $\frac{1}{2}$	58 25	326 63 $\frac{1}{2}$	333 6 $\frac{1}{2}$	333 1	332 45 $\frac{1}{2}$			
	Sounded	No ground with 160 fathoms									
	Cape Montagu		58 33					333 14			
2	N 3 E	37	57 47	57 46	326 58	333 29	333 23 $\frac{1}{2}$	333 8			
	Sounded	No ground with 220 fathoms									
	Saunders's Isle		58 0					333 2			
3	N 8 E	31	57 16 $\frac{1}{2}$	57 15	327 6			333 8			
	Candlemas Isles		57 10					332 47			
4	N 52 E	39	56 47 $\frac{1}{2}$	56 44	328 7	334 34 $\frac{1}{2}$	334 29	334 13 $\frac{1}{2}$	N W		
5	S 72 E	68	57 5	57 9	330 4 $\frac{1}{2}$	336 31	336 26 $\frac{1}{2}$	336 10 $\frac{1}{2}$			
6	S 39 E	88	58 18	58 19	331 48 $\frac{1}{2}$			337 56 $\frac{1}{2}$			
7	S 88 E	116	58 22 $\frac{1}{2}$	58 24 $\frac{1}{2}$	335 33 $\frac{1}{2}$	342 5 $\frac{1}{2}$	342 0 $\frac{1}{2}$	341 44			
8	S 81 E	106	58 40	58 29 $\frac{1}{2}$	338 53 $\frac{1}{2}$	345 27	345 21 $\frac{1}{2}$	345 6			
9	N 85 E	47	58 26	58 26 $\frac{1}{2}$	340 23 $\frac{1}{2}$	347 5 $\frac{1}{2}$	347 0 $\frac{1}{2}$	346 41 $\frac{1}{2}$			
10	N 81 $\frac{1}{2}$ E	76	58 15	58 15	342 57 $\frac{1}{2}$	349 32 $\frac{1}{2}$	349 27	349 11 $\frac{1}{2}$			
11	S 89 E	80	58 16	58 6 $\frac{1}{2}$	345 27 $\frac{1}{2}$	352 11 $\frac{1}{2}$	352 6	351 50 $\frac{1}{2}$			
12	S 81 E	27	58 11	58 20 $\frac{1}{2}$	346 20	353 32 $\frac{1}{2}$	353 26 $\frac{1}{2}$	353 11 $\frac{1}{2}$	S I West Island		
13	N 66 E	59	57 56 $\frac{1}{2}$	57 56 $\frac{1}{2}$	348 1	355 34	355 28 $\frac{1}{2}$	355 13			
14	N 75 E	120	57 23 $\frac{1}{2}$	57 23 $\frac{1}{2}$	351 47	359 35 $\frac{1}{2}$	359 30 $\frac{1}{2}$	359 14 $\frac{1}{2}$			
14	N 75 $\frac{1}{2}$ E	157	56 43 $\frac{1}{2}$	56 37	356 35	4 20 $\frac{1}{2}$	4 15 $\frac{1}{2}$	3 59 $\frac{1}{2}$			
	Dropped 360° and repeated a day										
15	N 40 E	82	55 34 $\frac{1}{2}$	55 26 $\frac{1}{2}$	358 15 $\frac{1}{2}$	6 2	5 56 $\frac{1}{2}$	5 41			
16	N 17 E	58	54 31 $\frac{1}{2}$	54 31 $\frac{1}{2}$	358 45	6 22 $\frac{1}{2}$	6 16 $\frac{1}{2}$	6 1 $\frac{1}{2}$			
17	N 85 $\frac{1}{2}$ E	98	54 23 $\frac{3}{4}$	54 23 $\frac{3}{4}$	1 35	8 58 $\frac{1}{2}$	8 37 $\frac{1}{2}$	8 37 $\frac{1}{2}$	North		
18	East.	111 3	54 24	54 23 $\frac{1}{2}$	4 47			11 56 $\frac{1}{2}$			
19	N 74 E	35	54 13 $\frac{1}{2}$	54 11	5 45			13 1 $\frac{1}{2}$			
20	S 85 $\frac{1}{2}$ E	105	54 21 $\frac{1}{2}$	54 15 $\frac{1}{2}$	8 45	16 29 $\frac{1}{2}$	16 18 $\frac{1}{2}$	16 8 $\frac{1}{2}$			
21	S 85 $\frac{1}{2}$ E	82	54 22	54 24 $\frac{1}{2}$	11 6	18 55 $\frac{1}{2}$	18 33 $\frac{1}{2}$	18 34 $\frac{1}{2}$	N E		
22	S 69 E	118	53 7	55 10 $\frac{1}{2}$	14 21	22 10 $\frac{3}{4}$	22 2	21 50			
23	N 61 E	101	54 21 $\frac{1}{2}$	54 26	16 54			24 39			
24	N 31 E	106	52 56 $\frac{1}{2}$	52 51 $\frac{1}{2}$	18 30 $\frac{1}{2}$	26 52 $\frac{1}{2}$	26 6	26 31 $\frac{1}{2}$			
25	N 29 E	148	50 42 $\frac{1}{2}$	50 33 $\frac{1}{2}$	20 33 $\frac{1}{2}$	29 0 $\frac{1}{2}$	28 19 $\frac{1}{2}$	28 40	S by W		
26	N 31 E	88	49 18	49 20 $\frac{1}{2}$	21 43 $\frac{1}{2}$	30 17 $\frac{1}{2}$	29 45 $\frac{1}{2}$	29 57 $\frac{1}{2}$			
27	N 47 E	97	48 15	47 58 $\frac{1}{2}$	23 57 $\frac{1}{2}$			31 53 $\frac{1}{2}$			
28	N 7 E	82	47 13 $\frac{1}{2}$	46 58 $\frac{1}{2}$	26 12 $\frac{1}{2}$	34 10 $\frac{1}{2}$	33 38 $\frac{1}{2}$	33 50 $\frac{1}{2}$		SE by E	

ON BOARD THE RESOLUTION.

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1775.		Course.	Dis- tance.	Latitude South		Latitude East				Ship rolls.	Swell sets.		
				By Ac- count.	By Obser- vation.	By Ac- count.	By Watch K.	By Obser- vation.	Corrected.				
												o	o
March	1.	N. 71 W.	92	46 28½	46 28	24 10½			31 45½	39	E. S. E. E. S. E. E. S. E. East. N. E.		
	2.	N. 30 W.	63	45 33½	45 32½	23 25	31 15½	30 43½	30 56				
	3.	N. 25 W.	100	44 2½	43 53½	22 20	30 7½	29 35½	29 47½				
	4.	N. 85 W.	52	43 49	43 46½	21 8	29 9½	28 37½	28 49½				
	5.	N. 59½ W.	73	43 46½	43 49½	19 27	27 33	27 1	27 13½				
	6.	N. 9 W.	79	42 31½	42 23½	19 7	27 33½	26 59½	27 14½				
	7.	N. 52 W.	41	41 59	41 48½	18 24	26 44½	26 10½	26 25				
	8.	S. 62 W.	31	42 3	41 47½	17 47	26 13½	25 40½	25 54½				
	9.	S. 71 W.	46	42 2½	42 6	16 49	25 18½	24 45½	25 0				
	10.	N. 31 W.	78	40 59½	40 56½	15 55	24 23½	23 51½	24 4½		East.		
	11.	N. 58 W.	47	40 3½	40 3	15 2	23 59	23 26½	23 40½				
	12.	N. 11 W.	42	39 22	38 50½	14 50	24 34½	24 2½	24 16½				
	13.	N. 45½ W.	121	37 25½	37 18½	13 10	22 50½	22 18½	22 32½				
	14.	N. 15 E.	76	36 5	36 27½	13 35	22 33	22 0½	22 15½				
Sounded: 80 fathoms, stony ground.													
	15.	N. 17 E.	62	35 28	35 16	14 2	22 34½	22 2½	22 17½		East.		
Sounded, and had 56 fathoms.													
	16.	N. 47 W.	27	34 57½	34 49	13 38	22 14½	22 20½	21 57½				
Saw land. Sounded, and had 40 fathoms.													
	17.	S. 72 W.	50	35 4½	35 2	12 43	21 10½	20 39	20 53½				
Sounded, and had 50 fathoms.													
	18.	N. 83 W.	9	35 0½	34 59½	12 33	20 53½	20 22	20 36				
	19.	N. 83 W.	23	34 57	34 51½	12 5	20 20½	19 48½	20 4				
	20.	N. 61 W.	93	34 6½	34 13	10 25½	18 12½	17 40½	17 56½				
Cape Town.													
April	28.	N. 58 W.	101	33 2½	32 50	16 41	16 19½		16 19½		North. N. E.		
	29.	N. 57 W.	140	31 33½	31 31	14 23	13 47		13 47				
	30.	N. 58 W.	127	30 24½	30 17½	12 17	11 31½		11 31½				
May	1.	N. 51 W.	98	29 16	29 12	10 49	9 55½		9 55½				
	2.	N. 51 W.	95	28 12	28 11½	9 25	8 23		8 23				
	3.	N. 50 W.	101	27 5½	27 1	7 49½	6 58	7 7½	6 58				
	4.	N. 38 W.	35	26 32½	26 34	7 25	6 36½	6 29½	6 36½				
	5.	N. 36 W.	39	26 3½	26 2	6 59							
	6.	N. 45½ W.	86	25 1½	25 0½	5 51	4 56	4 49	4 56				
	7.	N. 44 W.	122	23 33	23 27½	4 12	3 19½	3 29½	3 19½				
	8.	N. 44 W.	110	22 8	22 5	2 46	1 49	2 4½	1 49				
	9.	N. 48 W.	109	20 51½	20 46½	1 13	0 14½	0 23	0 14½				
West. West.													
	10.	N. 48 W.	91	19 44½	19 39	0 5	0 58½	0 49½	0 58½				
	11.	N. 47 W.	78	18 46½	18 52½	1 05	2 9½	2 2½	2 9½				
	12.	N. 48 W.	37	18 28½	18 27½	1 35	2 41	2 15½	2 41				
	13.	N. 42 W.	60	17 43	17 43½	2 19	3 19	2 53½	3 19				
	14.	N. 42 W.	75	16 47	16 46½	3 12	4 19½	4 9½	4 19½				
	15.	N. 52 W.	72	16 3	16 1½	4 13	5 16½		5 16½				
St. Helena.													
	22.	N. 55 W.	47	15 28	15 24	6 29½	6 28½	7 22½	6 29½				

1775.		Course.	Distance.	Latitude North		Longitude West				Ship roll.	Swell sets.
				By Account	By Observation	By Account	By Watch K.	By Observation	Corrected.		
			Miles.								
7.	July	N. 3 E.	25		33 32 $\frac{1}{2}$	36 59	40 8 $\frac{1}{2}$	39 20	39 44 $\frac{1}{2}$		
8.		N. 11 E.	35	34 8 $\frac{1}{2}$	34 12	36 51	40 7 $\frac{1}{2}$	39 26 $\frac{1}{2}$	39 43 $\frac{1}{2}$		East.
9.		N. 19 E.	45	34 50 $\frac{1}{2}$	35 3	36 32 $\frac{1}{2}$	40 10 $\frac{1}{2}$	39 29 $\frac{1}{2}$	39 46 $\frac{1}{2}$		
10.		N. 46 E.	68 $\frac{1}{2}$	35 50 $\frac{1}{2}$	35 45 $\frac{1}{2}$	35 33	39 14 $\frac{1}{2}$	38 33 $\frac{1}{2}$	38 50 $\frac{1}{2}$		
11.		N. 63 E.	154		36 55 $\frac{1}{2}$	32 43	36 21 $\frac{1}{2}$	35 40 $\frac{1}{2}$	35 57 $\frac{1}{2}$		
12.		N. 62 E.	165	38 12 $\frac{1}{2}$	38 12 $\frac{1}{2}$	29 40	33 6 $\frac{1}{2}$	32 26	32 42 $\frac{1}{2}$		
13.		N. 83 E.	133	38 27	38 29 $\frac{1}{2}$	26 53	30 9 $\frac{1}{2}$	29 28 $\frac{1}{2}$	29 45 $\frac{1}{2}$		
		Villa de Horta, Fayal.		38 32 $\frac{1}{2}$					28 32 $\frac{1}{2}$		
19.		N. 59 E.	43	38 54	38 52	24 58 $\frac{1}{2}$	28 3 $\frac{1}{2}$		27 40		
20.		N. 76 E.	100	39 18 $\frac{1}{2}$	39 13 $\frac{1}{2}$	22 53 $\frac{1}{2}$	25 56 $\frac{1}{2}$	25 57 $\frac{1}{2}$	25 33 $\frac{1}{2}$		
21.		N. 79 $\frac{1}{2}$ E.	79	39 26 $\frac{1}{2}$	39 26 $\frac{1}{2}$	21 13 $\frac{1}{2}$	24 15	24 35 $\frac{1}{2}$	23 52 $\frac{1}{2}$		South.
22.		N. 81 E.	57	39 35 $\frac{1}{2}$	39 37 $\frac{1}{2}$	19 58 $\frac{1}{2}$	22 59 $\frac{1}{2}$	22 39 $\frac{1}{2}$	22 38		
23.		N. 51 E.	128	40 58	40 48 $\frac{1}{2}$	17 47 $\frac{1}{2}$	20 36 $\frac{1}{2}$	20 11	20 14 $\frac{1}{2}$		East.
24.		N. 49 E.	129	42 13 $\frac{1}{2}$	42 6 $\frac{1}{2}$	15 38 $\frac{1}{2}$	18 31	18 5 $\frac{1}{2}$	18 8 $\frac{1}{2}$		S. E.
25.		N. 39 E.	124	43 43	43 40 $\frac{1}{2}$	13 51	16 44 $\frac{1}{2}$	16 19 $\frac{1}{2}$	16 23 $\frac{1}{2}$		
26.		N. 36 E.	143		45 36	11 52	14 22 $\frac{1}{2}$	13 57 $\frac{1}{2}$	14 2 $\frac{1}{2}$		
27.		N. 46 E.	158 $\frac{1}{2}$	47 16	47 16 $\frac{1}{2}$	9 5	11 27 $\frac{1}{2}$	11 1 $\frac{1}{2}$	11 7 $\frac{1}{2}$		
28.		N. 59 E.	114 $\frac{1}{2}$	48 15 $\frac{1}{2}$	48 9 $\frac{1}{2}$	6 40	8 58	8 32 $\frac{1}{2}$	8 38 $\frac{1}{2}$		
29.		N. 57 $\frac{1}{2}$ E.	176	49 43	49 37 $\frac{1}{2}$	2 55	5 9 $\frac{1}{2}$	4 43 $\frac{1}{2}$	4 50 $\frac{1}{2}$		

* * In the preceding Journal, the course and distance put down in the second and third columns are those made good for the whole day; the variation of the compass, and common quantity of lee-way, under the circumstances the ship then was, being only allowed for, currents, and heave of the sea, as it is usually called, being not taken into the account, except for a few weeks after we left England. These things, I conceived, would be determined with greater certainty, both as to quantity and quality, by comparing the reckoning, kept entirely without them, with those deduced from Observations, and the Watch, or Time-keeper made by Mr. Kendall: Indeed, I did not see how otherwise to make my dead reckoning account of any real use, as my judgment, in making allowance for these things, could not have the least weight even to confirm that of such skilful and experienced navigators as Captain Cook, Mr. Gilbert, and other Officers of the Resolution. It therefore became my business to endeavour at making my labours useful, though in a less degree, by adopting a different plan; and am willing to hope I have done it with some success, especially as I was very careful in observing, as often as possible, both the variation of the compass, and the lee-way which the ship made, from time to time. I have also endeavoured to distinguish between what was effected by a current, and what was the effect of a swell, by mentioning the latter, as often as one was observed, and the point of the compass towards which it set, in a small column on the right hand side of the page.

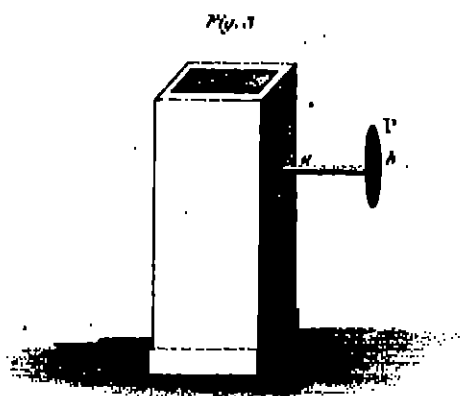
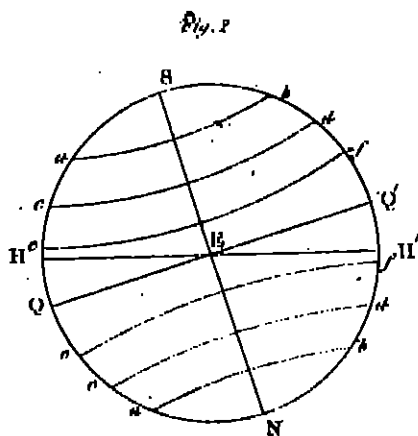
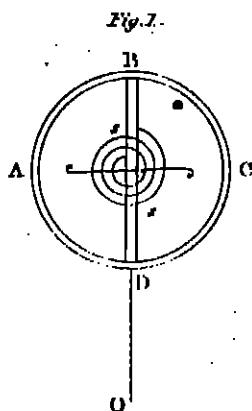
The fourth and sixth columns contain the latitude and longitude of the ship, deduced from the above-mentioned course and distance, on the noon of the civil day; or that where the nautical day ends, and the astronomical day begins: The latitude, so computed, is only carried on from observation to observation; that is, in general, only from noon to noon, as I always took the

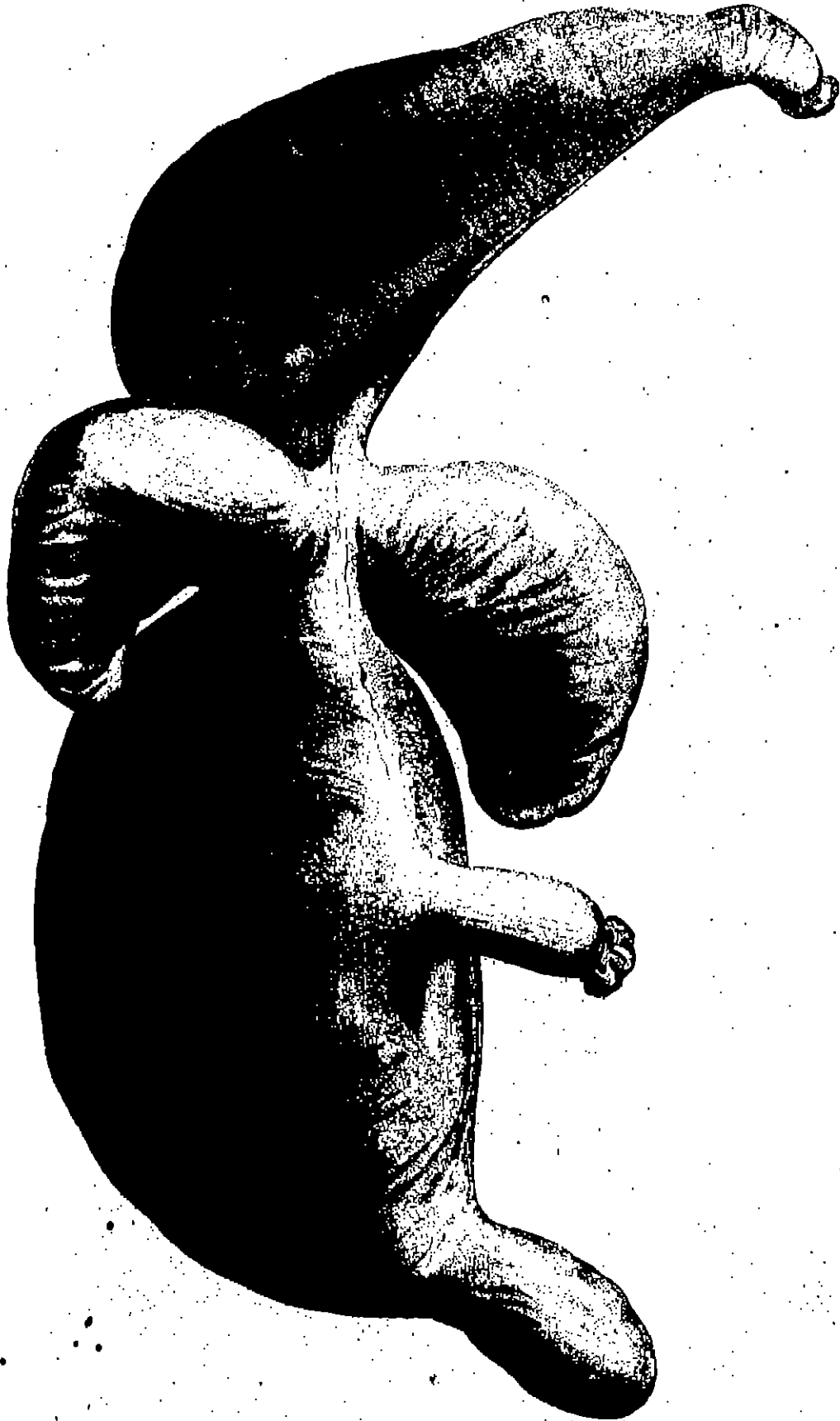
latitude observed the day before, when I had one, for the latitude departed from; but the longitude is kept on, without any correction whatsoever, from one place to the next where we anchored, and stopped long enough for me to determine the longitude properly, or where it had been well settled before by other persons. The fifth column contains the observed latitude when there was an observation; and when there was not, the latitude determined, in the best manner I could, by the log and subsequent observations. Those latitudes which were actually observed, may be readily known by turning to the Observations, page 223 to page 280.

Columns seven and eight contain the longitudes of the ship, as shewn by Mr. Kendall's Watch, and Mr. Arnold's (N^o. 3.), until Mr. Arnold's Watch stopped, after which that column is discontinued. The last column but two exhibits the longitude resulting from the last lunar observation, carried on to the time by Mr. Kendall's Watch, except from our leaving England to the 13th of September, 1772, when it was carried on by the log, the disadvantage of which was soon discovered; and the last but one contains, what is esteemed to have been, the true longitude of the ship each day at noon, and also the longitudes of all the lands we saw in the voyage, as well as of the more remarkable Capes, Headlands, and Bays in them; the general method of deducing which was as follows:

I reduced all the longitudes resulting from the observations of the Moon's distance from the Sun and fixed Stars made between the times of new and full Moon, to the time of the full Moon, by means of Mr. Kendall's Watch, and took the mean: I reduced, in like manner, all the observed longitudes taken between the full and change, to the same time, and took the mean of these also: the mean of these two means were taken for the true longitude of the ship at that time. In the same manner were all the longitudes observed between the full and change, and also between the change and next full moon, reduced to the time of the change, and their mean taken for the true longitude of the ship at that time: and in this manner was the longitude of the ship ascertained, once a fortnight, generally by a mean of 30 or 40, and sometimes even 50 and 60 observations. The longitudes in the intermediate times were deduced from these by means of the Watch. In some instances, indeed, where I have had sufficient reasons, the longitudes are taken from the Watch itself, as in our run from the Cape of Good Hope to the Island of St. Helena, although the observations would at all times have given the same longitude within a very few miles, as will readily be seen; and I have also paid proper regard to the situations of places settled by those who have gone before me, where the authorities were such as could be depended on.

Lastly, I have to observe that the length of the log-line was carefully kept, by frequent comparisons, to such proportion with the half-minute glass, as 49½ feet have to 30 seconds.





Chiroptera. Bat. in front of its wings

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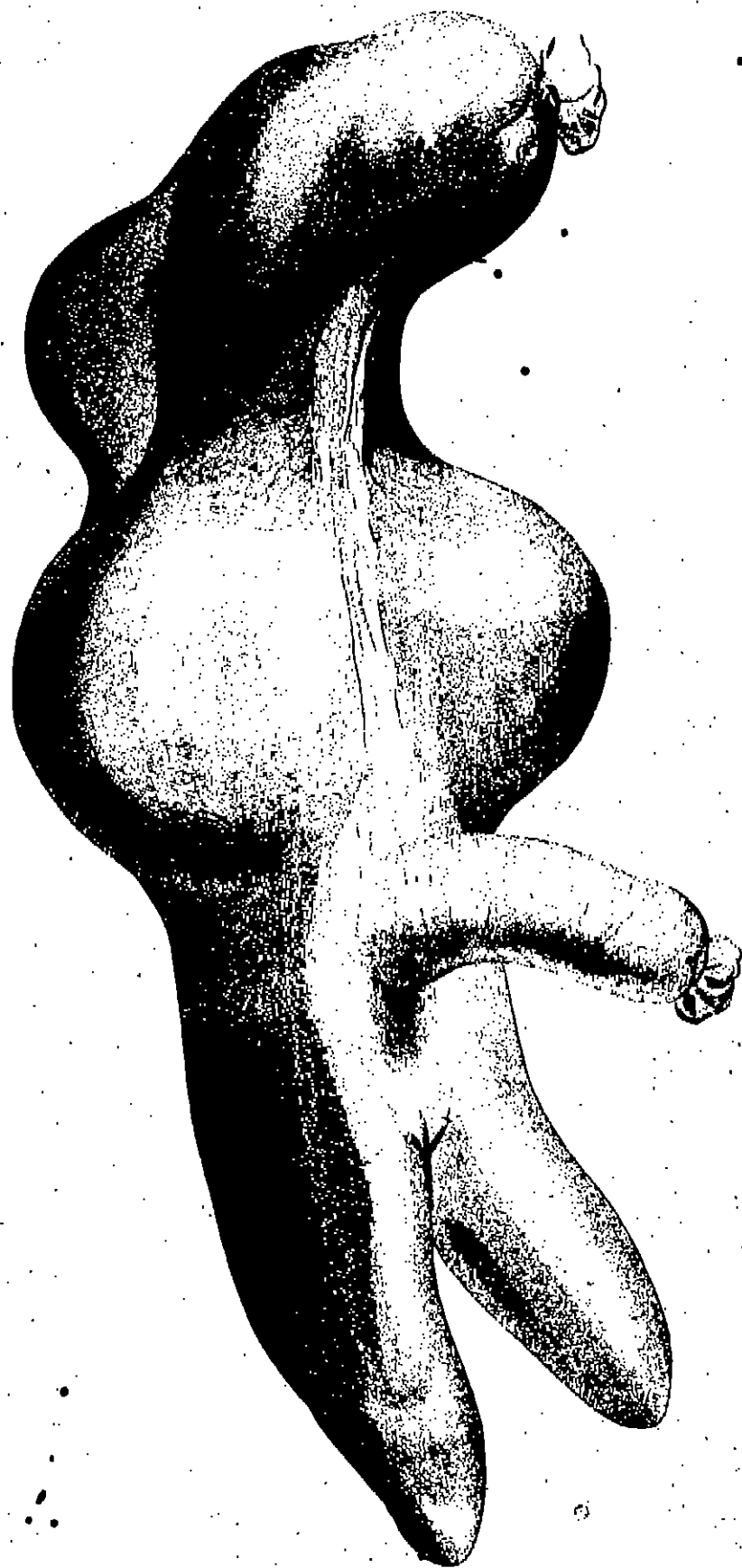
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METEOROLOGICAL OBSERVATIONS,

M A D E

On Board His MAJESTY'S Sloop RESOLUTION,

In her late Voyage on DISCOVERIES towards the SOUTH.

1772.	Morn. Therm.	Noon.		Even. Therm.	Winds.	Weather, &c.
		Barom.	Therm.			
June 21.					S. W.	Moderate wind, clear, and hot weather.
22.					Almost calm, and very hot.	
23.					Easterly.	Light breezes, flying clouds, and very hot.
24.					Southerly.	Brisk wind, and flying clouds.
25.					Variable.	Little winds, and ditto.
26.					Ditto.	Light breezes, and ditto.
27.					Westerly.	Ditto.
28.					Variable.	Little wind, and cloudy weather.
29.					Ditto.	Ditto, and thin clouds.
30.					Northerly.	Light breezes, and hazy weather.
July 1.					Ditto.	Ditto.
2.	56½				Ditto.	Ditto, and fine weather.
3.						Cloudy, with showers.
13.	61	30,31	61½		Westerly.	Moderate wind, and cloudy, with rain at times.
14.	60½	30,29	62	63	Ditto.	Little wind, and foggy weather.
15.	59		64		N. N. E.	Moderate wind, and cloudy weather.
16.	61½	30,18	61½	63	N. W.	Ditto, and fine weather.
17.	63½		70	70	S. W.	Brisk wind, and hazy.
18.	64		65		N. W.	Squally, with clouds, and rain at times.
19.	63	30,05	64½		N. W.	Brisk wind, and cloudy.
20.	63	29,97	66		Variable.	Ditto, and foggy, with rain.
21.	60	30,08	66		S. W.	Little wind, and hazy weather.
22.			65½	69	North.	Ditto.
23.			64½		N. E.	Brisk wind, and flying clouds.
24.	65½		66½		Ditto.	Ditto.
25.	67½	30,3	70	73	Ditto.	Ditto, and cloudy.
Tried Dr. Lind's wind gage, (See Philosoph. Transact. vol. lxx. p. 343.) but could not find that the wind had any sensible effect on it. At the time we had as much wind as we could well carry top-gallant sails to.						
26.	68½	30,2	72½	74	N. E.	Moderate wind, and cloudy.
27.	69½		72	71	Variable.	Ditto, and fine weather.
28.	72½	30,1	72½	74	Ditto.	Very little wind, and fine weather.
29.	72	30,18	77½		Ditto.	Little wind, showers, and fine weather.
30.			76		Ditto.	Moderate wind, and hot weather.
31.			72½		Ditto.	Ditto, and showers, with flying clouds.
Aug. 1.			72½		Ditto.	Brisk wind, and flying clouds.
2.			75½		N. E.	Ditto, and cloudy, with showers.
3.	73	30,13	77		Ditto.	Ditto, and cloudy.
4.	72	30,08	75	76½	Variable.	Moderate wind, and very hazy.
5.	75½	30,1	76	77½	East.	Ditto, and foggy.
6.	74	30,1	78	78½	N. E.	Ditto, and cloudy.
7.	74½	30,15	79	79½	East.	Ditto.
8.	73	30,1	79		N. E.	Moderate wind, and hazy.
9.	76	30,08	78		Ditto.	Brisk wind, and cloudy.
10.	75½	30,05	79		Ditto.	Ditto, and hazy weather.
11.	78	30,0	82		N. E. by N.	Moderate wind, and hazy.
12.	80	30,02	80		Ditto.	Ditto, and showers.
13.		30,08	82	31	N. E.	Ditto, and fine weather.

1772	Morn	Noon		Even	Winds	Weather &c.
	Therm	B. rom	Therm	Therm		
♀ Aug 14	79	30,12	81		N E	Moderate wind, and fine weather
♂ — 15	78½	29,92	80½		N E by N	Brisk wind with rain
To day we lost the N E. trade wind, which veered round by the E to the S E without flattening to a calm as I believe is generally the case						
○ — 16	80	29,92	81		South	Moderate wind, and hazy weather
☾ — 17	79	29,92	80		S W	Ditto, and cloudy
♂ — 18	78	30,0	82		Ditto	Little wind, and very hazy
♀ — 19	80	30,07	81	81	N W	Moderate wind, and cloudy, with showers
☾ — 20	79	29,97	79½		S W	Little wind, and exceeding heavy rain
♀ — 21	76½	29,9	79	79½	Ditto	Squally, with rain
♂ — 22	78	30,02	80		Ditto	Brisk wind, and cloudy
○ — 23	80	30,0	80	80½	Ditto	Moderate wind, and cloudy
☾ — 24	78	29,95	79		Ditto	Ditto
♂ — 25	79½	30,05	80½	80½	Ditto	Moderate wind, and hazy
♀ — 26	78	29,92	76½		Ditto	Ditto, and cloudy, with showers
☾ — 27	78	29,97	80½		Ditto	Ditto, and hazy
♂ — 28	77½	30,10	77		Ditto	Ditto, and fine weather
♀ — 29	77	30,2	78	79½	Ditto	Ditto
○ — 30	76	30,02	77		South	Ditto
☾ — 31	76½	30,07	78½		Ditto	Ditto
♂ Sept 1	77	30,0	79		Ditto	Ditto
♀ — 2	76	29,92	78		Ditto	Ditto, and cloudy
☾ — 3	75½	30,05	76		Ditto	Ditto
♂ — 4	74	30,05	75		Variable	Ditto, and fine weather
♀ — 5	73½	30,04	76		S W	Ditto
This morning I let down a Thermometer, suspended in the middle of a strong wooden case, of such a construction as to let the water pass freely through it in its descent, but which shut close the instant it began to be drawn up. By this means the Thermometer was brought up in a body of water of the same heat with that it had been let down to. The Thermometer stood at 75½ in the open air, at 74 in the water at the surface, and at 66 when drawn up from the depth of 85 fathoms, where it had lain 20 minutes, and we were seven and a half drawing it up						
○ — 6	74½	30,0	75		South	Moderate wind, and fine weather
☾ — 7	75	30,07	77		Ditto	Ditto
♂ — 8	75½	30,1	76		Ditto	Ditto
♀ — 9	74½	30,1	75		S E	Ditto
☾ — 10	74½	30,05	75		Ditto	Ditto
♂ — 11	74	30,12	76		Ditto	Ditto
♀ — 12	75½	30,1	76½		Ditto	Ditto
○ — 13	74	30,1	76		Ditto	Moderate wind, and cloudy
☾ — 14	75	30,15	76½	77	Ditto	Ditto, and fine weather
♂ — 15	73	30,02	77		Ditto	Ditto, and cloudy
♀ — 16	73	30,17	73		Ditto	Ditto
☾ — 17	72½	30,17	73½		Ditto	Ditto
♂ — 18	73	30,15	73½		Ditto	Squally, with rain sometimes
♀ — 19	70½	30,17	72½		Ditto	Brisk wind, and cloudy, with showers
○ — 20	72	30,22	72½		Ditto	Moderate wind, and fine weather

1772.		Morn.		Noon.		Even.	Winds.	Weather, &c.
		Therm.	Barom.	Therm.	Therm.			
Sept.	21.	71	30,12	71			S. E.	Moderate wind, and fine weather.
	22.			75			Ditto.	Ditto.
	23.	70	30,27	73			Ditto.	Squally, with clouds, and rain at times.
	24.	70 $\frac{1}{2}$	30,3	72			Ditto.	Moderate wind, and cloudy.
	25.		30,3	70 $\frac{1}{2}$			East.	Brisk wind, and cloudy, with showers.
	26.	69	30,35	73	73 $\frac{1}{2}$		Ditto.	Little wind, and fine weather.
The Thermometer stood at 72 $\frac{1}{2}$ in the open air, at 70 in the water at the surface, and at 68 when drawn up from a depth of 80 fathoms, where it had lain 15', and we had been seven minutes drawing it up.								
Oct.	27.	69 $\frac{1}{2}$	30,32	74			East.	Little wind, and fine weather.
	28.	69	30,25	72			N. E.	Ditto.
	29.	67	30,22	71			North.	Moderate wind, and fine weather.
	30.	69 $\frac{1}{2}$	30,12	71 $\frac{1}{2}$	67 $\frac{1}{2}$		Variable.	Brisk wind, and cloudy.
	1.			71			South.	Moderate wind, and flying clouds.
	2.	65 $\frac{1}{2}$		65 $\frac{1}{2}$			S. W.	Ditto.
	3.	63 $\frac{1}{2}$	30,3	67 $\frac{1}{2}$			Ditto.	Brisk wind, and cloudy.
	4.	62 $\frac{1}{2}$	30,15	62			Variable.	Moderate wind, and cloudy.
	5.	59	30,41	61			S. E.	Ditto, with drizzling rain.
	6.		30,4	61 $\frac{1}{2}$			East.	Ditto, and cloudy.
	7.	58 $\frac{1}{2}$	30,42	60 $\frac{1}{2}$			Ditto.	Squally, unfettered weather.
	8.	59	30,4	62			Ditto.	Brisk wind, and cloudy, with rain.
	9.	59	30,4	61			N. E.	Brisk wind in squalls, and very hazy.
	10.	59	30,37	62			Ditto.	Moderate wind, and hazy: showers.
	11.	59 $\frac{1}{2}$	30,25	63 $\frac{1}{2}$			Ditto.	Moderate wind, and fine weather.
The Thermometer stood at 60 $\frac{1}{2}$ in the open air, at 59 in the water at the surface, and at 57 when drawn up from the depth of 100 fathoms, where it had lain 20', and we had been six drawing it up.								
	12.		30,35	63			N. E.	Little wind, and fine clear weather.
	13.	60	30,27	65 $\frac{1}{2}$			Ditto.	Moderate wind, and cloudy.
	14.	61	30,1	61			North.	Ditto.
	15.	58	30,02	62			Ditto.	Moderate wind, and fine weather.
	16.	59	30,05	61			West.	Brisk wind, and foggy weather.
	17.	57	30,05	59			S. W.	Ditto, and flying clouds.
	18.		30,1	60 $\frac{1}{2}$			Variable.	Moderate wind, and cloudy.
	19.	54 $\frac{1}{2}$	30,17	57	58		East.	Little wind, and cloudy.
	20.		30,35	62 $\frac{1}{2}$			Ditto.	Ditto, and clear weather.
	21.	60 $\frac{1}{2}$	30,37	63			Ditto.	Ditto.
	22.	58	30,2	60	61		N. E.	Little wind, and cloudy, with rain at times.
	23.	58	29,95	63			West.	Little wind, and cloudy.
	24.	56	30,07	59			South.	Brisk wind, and fine weather.
	25.	54	30,17	58			S. E.	Moderate wind, and cloudy.
	26.	58	30,07	60			Ditto.	Ditto.
	27.	59	29,9	60 $\frac{1}{2}$			Variable.	Moderate wind, and hazy weather.
	28.	64	29,9	67			N. W.	Little wind, and cloudy.
	29.		29,81	61 $\frac{1}{2}$			North.	Moderate wind, with drizzling rain.
	30.	61	29,83	60 $\frac{1}{2}$			N. W.	Cloudy, with rain at times.
	31.						Ditto.	Brisk wind, and cloudy weather.

1772		Morn		Noon		Even	Winds	Weather &c
		Therm	Barom	Therm	Therm			
O	Nov 1			63			N W	Brisk wind, and cloudy, with showers
3	2			61½			N W	Ditto, and mostly cloudy
8	3			60½			N W	Moderate wind, and fair weather
8	4		30,34	61½			Variable	Ditto, and variable weather
24	5		30,24	65			Southerly	Ditto
2	6		30,19	66			Ditto	Moderate wind, and fine weather
6	7	66½	30,17	71	66		Ditto	Brisk wind, and squally weather
O	8	62	30,14	68	63½		N W	Little wind, and flying clouds
3	9	62½	30,15	64	63½		N W	Moderate wind, and flying clouds
8	10	59½	30,3	62½	60		Variable	Little wind, and fine weather
8	11	59	30,22	64½			N W	Moderate wind and cloudy weather
24	12	62½	30,24	65	61		N W	Ditto, and fine weather
2	13	63	30,26	64½	65		N W	Ditto
2	14	60½	30,33	65½	63½		Variable	Ditto
O	15	58½	30,19	66			Ditto	Ditto
3	16						Ditto	Ditto
8	17			68			N N E	Ditto
8	18		30,02	71			Variable	Moderate wind, and cloudy
24	19		29,95	69½			S S E	Brisk wind, and cloudy
2	20		29,9	71½			N W	Ditto
2	21		29,97	72			N W	Little wind, and fine weather
O	22			72	72		N W	Moderate wind, and cloudy
2	23	62	29,8	65			Variable	Brisk wind, and cloudy, with showers
8	24	62	30,1	63½			S E	Moderate wind, and clear weather
8	25	62	30,0	64			S E	Brisk wind, and cloudy
24	26	66½	29,8	69½			West	Moderate wind, and cloudy
2	27	53	30,02	52½			Variable	Ditto, and flying clouds
2	28	54½	29,85	59½			N W	Strong wind in squalls, with rain
In the midst of this heavy gale I tried Dr Lind's Wind gage, and the water in it was depressed by the force of the wind $\frac{1}{4}$ of an inch								
O	29	52½	29,6	51			N W b W	Strong wind, and squally, with hail and rain
3	30	52	29,02	55			N W b W	Strong wind in squalls and rain
The water in Dr Lind's Wind gage depressed $\frac{1}{4}$ of an inch in the squalls								
8	Dec 1	62	29,23	51	47		Westerly	Strong wind, and cloudy, with rain
Dr Lind's Wind gage sunk $\frac{1}{4}$ of an inch in the squalls								
8	2	46	29,3	49½	48		N W	Strong wind, and foggy weather
24	3	47½	29,22	49			N W	Brisk wind, and flying clouds
8	4	43½	29,55	44½			N W	Moderate wind, and hazy
2	5	50½	29,7	48			Variable	Brisk wind, and hazy
O	6	38½	29,52	38			Variable	Strong wind, and cloudy
3	7	38½	28,6	42½			N W	Exceeding strong wind, with rain
8	8	37½	28,92	40	37½		West	Ditto and cloudy, with snow and sleet
8	9	35	29,32	36	32		West	Strong wind, and cloudy At 1 past 10
in the evening, some water which had been spilled on the deck was frozen, and in the morning we passed the first island of ice. It was not very high, was smooth on the top and sides, and not rugged like those I have seen in the North seas								
24	10	34	29,32	36½			Variable,	Brisk wind, with snow and sleet
2	11	32½	29,27	34			N W	Ditto Passed another ice isle.

ON BOARD THE RESOLUTION.

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1772.	Morn. Therm.	Noon.		Even. Therm.	Winds.	Weather, &c.
		Barom.	Therm.			
h Dec. 12.	34	28.55	34 $\frac{1}{2}$		N. W.	Brisk wind, with snow and fleet. Many ice islands.
o — 13.	30 $\frac{1}{2}$	28.7	32		S. W.	Ditto. Penguins and ice.
d — 14.	31	29.17	33		Northerly.	Went in the boat to try the heat of the sea-water, and found that a thermometer which stood at 32 $\frac{1}{2}$ in the open air, stood at 30 in the water at the surface, and at 34 when drawn up from the depth of 100 fathoms, where it had lain 17', and we were 5 $\frac{1}{2}$ drawing it up. While we were doing this, so thick a fog came on, that it was with the utmost difficulty, and after some considerable time, that we found the ships again.—Much ice.
d — 15.	30	28.57	32		N. W.	Little wind, with fog and snow. Ice, whales, and peng.
h — 16.	31	28.7	31 $\frac{1}{2}$		N. W.	Little wind, fog and snow. Much ice.
h — 17.	32	29.3	33 $\frac{1}{2}$		N. W.	Mod. wind, and cloudy, with fleet. Ice, whales, seals, &c.
h — 18.	30 $\frac{1}{2}$	29.4	31		N. W.	Brisk wind and thick fog. Many ice islands.
h — 19.	31	29.12	31 $\frac{1}{2}$	31 $\frac{1}{2}$	Variable.	Mod. wind, and foggy. Many large ice isl.
o — 20.	33	29.05	34	33	N. W.	Brisk wind, with snow. Some ice islands.
h — 21.	32 $\frac{1}{2}$	29.05	33 $\frac{1}{2}$	34 $\frac{1}{2}$	N. W.	Brisk wind, and hazy. Several ice islands.
d — 22.	32 $\frac{1}{2}$	29.2	33		S. W.	Moderate wind, and cloudy. A thermometer which stood at 33 in the open air fell to 32 in the water at the surface, and stood at 34 $\frac{1}{2}$ when drawn up from the depth of 100 fathoms, where it had been 16', and we were 6 $\frac{1}{2}$ drawing it up.—Many ice islands.
h — 23.	33	29.65	34		N. W.	Mod. wind, and cloudy, with snow. Some ice.
h — 24.	32 $\frac{1}{2}$	29.4	35		Variable.	Little wind, and cloudy. Ice.
h — 25.	31 $\frac{1}{2}$	29.05	32 $\frac{1}{2}$		South.	Moderate wind, and cloudy. Some ice.
h — 26.	30 $\frac{1}{2}$	29.15	31 $\frac{1}{2}$	32	S. W.	Brisk wind, and cloudy. Much ice.
o — 27.	33 $\frac{1}{2}$	29.45	36		East.	Little wind, and cloudy. Whales, peng. & ice.
h — 28.	33	29.07	35		East.	Brisk wind, and cloudy. No ice seen.
h — 29.	31 $\frac{1}{2}$	29.2	36		Variable.	Mod. wind, with snow. Many peng.; some ice.
h — 30.	33 $\frac{1}{2}$	29.07	36 $\frac{1}{2}$		S. E.	Little wind; snow and fleet. Seals and peng.
h — 31.	31	29.0	31 $\frac{1}{2}$	31	S. E.	Brisk wind, and cloudy. Peng. seals, &c.
1773.						
h Jan. 1.	31	28.95	31 $\frac{1}{2}$	31	S. W.	Brisk wind, with fleet. Some ice and peng.
h — 2.	31	29.55	32		Variable.	Brisk wind, and cloudy. Whales, peng. & ice.
o — 3.	31	29.37	31		N. E.	Brisk wind; snow and fleet. The rigging so cumbered with ice, that the ship was worked with the utmost difficulty, and many people were hurt by its falling.
h — 4.	32	29.5	33	33	N. W.	Brisk wind, with fleet. The rigging still loaded with ice.
h — 5.	33 $\frac{1}{2}$	29.4	34		N. W.	Brisk wind, and cloudy. One ice island only.
h — 6.	33 $\frac{1}{2}$	29.17	34 $\frac{1}{2}$		N. W.	Ditto. Few ice islands.
h — 7.	34	29.07	35		N. W.	Brisk wind; snow and fleet. One ice island.
h — 8.	33 $\frac{1}{2}$	29.12	34 $\frac{1}{2}$		N. W.	Mod. wind, and cloudy. Several ice islands.
h — 9.	33 $\frac{1}{2}$	29.22	35		N. W.	Light breezes, and cloudy, with snow at times. Took up a great quantity of ice to melt for water. That water melted from the ice usually found floating in the sea is fresh and good, is no new discovery. The Hudson's Bay ships have long made use of it; and I have mentioned it, from my own experience, in the account of a Voyage to Hudson's Bay. See Phil. Transf. vol. 12. for the year 1770.
h — 10.	31 $\frac{1}{2}$	29.25	34		North.	Mod. wind, and cloudy, with snow at times.
h — 11.	34	29.27	35 $\frac{1}{2}$		East.	Ditto, and cloudy. Several ice islands.

1773		Morn		Noon		Even		Winds	Weather &c
		Ther	Barom	Ther	Barom	Ther	Barom		
8	Jan 12	35	29.20	35				S S W	Moderate wind and cloudy, with snow
Took up more ice for water. A thermometer which stood at 37 in the open air, stood at 33½ in the water, at the surface and at 32 when drawn up from 100 fathoms below it. Whilst we were waiting for the boats, many large pieces were broke off by the sea from a very large Ice Island which was near us, so that it is plain those huge masses of Ice can exist but for a short time.									
8	13	34½	29.3	38				S E	Calm Cloudy, with snow Some Ice Isl
4	14		29.17	35½				S E	Little wind, and cloudy Some Ice Islands
8	15	35	29.07	42		34½		S E	Little wind, with snow at times
6	16	34	29.05	35		34½		S E	Brisk wind, and cloudy, with sleet
0	17	33½	29.1	34				S L	Brisk wind, and foggy Lacked from a very large, and apparently firm field of ice, amidst an amazing number of very large Ice Islands
8	18	32	28.95	34½		33		S E	Brisk wind, with sleet Little ice
8	19	35	29.1	35		34½		S E	Brisk wind, and cloudy Few Ice Islands
8	20	33½	28.67	33½		34½		S E	Ditto Several Ice Islands
4	21	35	28.55	35½		35½		S W	Moderate wind, snow and sleet Several Ice Islands
8	22	35½	28.95	37½				S W	Moderate wind with sleet The two time keepers being put one on each side of the great cabin, I put a thermometer by each, and before a fire was kept in the cabin, I never saw them differ more than half a degree but since there has been a fire, I have constantly found that thermometer highest which happened to be on the weather side, sometimes by 3, whereas one would naturally have expected it to have been just the contrary Much ice
6	23	35	29.02	36½		35½		S W	Brisk wind, hail, snow and sleet Some ice
0	24	34½	29.27	34½		34½		N E	Brisk wind, and cloudy Several Ice Islands
8	25		28.85	36½		35		S E	Brisk wind, and foggy Little ice
8	26	34	28.27	35		25½		S W	Little wind, foggy, with rain No ice
8	27	35½	28.9	35		36		N W	Little wind, and flying clouds Some Ice Islands
4	28	38	29.42	36½		36½		N W	Brisk wind with sleet snow and rain Several Ice Islands
8	29	37	29.65	38		37½		North	Strong wind, with rain, and very thick fog
0	30	38½	29.57	39½		40		N W	Strong wind with thick fog, and rain
8	31	38	29.55	38½		39		N W	Strong wind, and cloudy Some ice
8	Feb 1	40½	29.95	41½		40		N W	Brisk wind and cloudy Penguins and divers
8	2	43	29.92	45½		46½		North	Brisk wind, and foggy, with rain at times
4	3	43½	29.8	46		46		N W	Moderate wind, and hazy Sea weed & divers
8	4	42½	29.65	45		43½		N W	Moderate wind, and cloudy
8	5	40	29.6	41		41		N W	Ditto
6	6	43	29.47	43½		44½		N W	Brisk wind, and drizzling rain
0	7	44	29.7	44		45		N E	Brisk wind, and cloudy
8	8	40	29.25	43½				N E	Brisk wind and thick fog Rain at times Penguins
8	9	43½	28.85	45				N W	Strong wind, and foggy, with rain Penguins
4	10	40	29.45	41½		41		N W	Strong wind, and cloudy
8	11	40	29.17	40				N W	Brisk wind, with rain Many penguins
8	12		29.55	38		38		S W	Brisk wind, and clear weather Many penguins
6	13	35	29.6	36		38½		West.	Ditto Many penguins
0	14	35½	29.37	35½		36		S W	Moderate wind, snow and sleet Snow a seal
8	15	35	29.4	36½		36½		S W	Brisk wind, and cloudy Several seals
8	16	35	29.5	34				East	Little wind with snow Mr Pickersgill's South light

1773.	Morn. Therm.	Noon.		Even. Therm.	Winds.	Weather, &c.
		Barom.	Therm.			
Feb. 17.	33½	29.02	35		S. S. W.	Moderate wind, and cloudy, with snow. About one o'clock in the morning Mr. Clerke, who had the watch, told me that the same appearance which Mr. Pickersgill had seen the night before was very bright. I got up, and found it to be the very same phenomenon which we call the Northern Lights in England. The natural state of the heavens, except in the S. E. quarter, and for about 10° of altitude all round the horizon, was a whitish haze, through which stars of the third magnitude were just discernable. All round, the horizon was covered with thick clouds, out of which arose many streams of a pale reddish light, that ascended towards the zenith. These streams had not that motion which they are sometimes seen to have in England; but were perfectly steady, except a small tremulous motion which some of them had near their edges. Took up ice for water.
18.	32	29.12	33	33	S. W.	Moderate wind, and cloudy. Several Ice Is.
19.	33½	29.2	35	33½	S. W.	Brisk wind, and squally, with snow at times. Many large Ice Islands. In the night the southern lights were very bright at times, and the colours much more various and vivid than they were on Wednesday night, their motion also was greater, so that on the whole they were extremely beautiful.
20.	32½	29.3	35		W. S. W.	Moderate wind, and hazy. Many large Ice Islands, and a strong appearance of land to the westward, which proved only a fog-bank. At nine o'clock in the evening the southern lights sprung up very bright about the east point of the horizon, in a single steady pillar, of a pale reddish light. Its direction was not directly towards the zenith, but gradually deflected towards the south, and grew fainter as it ascended, so as to vanish about S. E. and at 45° of altitude.
21.	34½	29.42	36½		N. E.	Little wind, with snow. Many Ice Islands.
22.	45½	28.82	34		S. E.	Ditto.
23.	34	28.72	35	33½	S. E.	Strong wind, with snow, and so thick a fog, at times, that we could scarcely see a ship's length, and at the same time were surrounded with a prodigious number of very large islands of ice. In the morning I saw one burst, in an instant, into three large, and a great many small pieces. It made no report, or at least so small a one that we could not hear it for the noise of the sea, and the whistling of the wind in the rigging.
24.	34	28.55	35	35	Variable.	Strong wind, with sleet. Many large Ice Is.
25.	35	29.0	36½	36½	N. E.	Little wind, and cloudy, with snow. Several Ice Islands.
26.	35	29.1	36½	33	South.	Little wind, and cloudy. Saw the South. lights.
27.	34	28.42	34½		S. W.	Strong wind, with sleet. Whales and ice.
28.	35½	29.0	36½		Variable.	Strong wind, and foggy. Porpoises and ice.
March 1.	35	28.35	35½	36½	N. E.	Brisk wind, with snow. Several Ice Islands.
2.	37	28.55	38		S. W.	Little wind, thick fog, and rain.
3.	36	29.05	38		Variable.	Little wind, and foggy. Several penguins.
4.	35½	28.82	36		N. W.	Brisk wind, with snow and rain.
5.	36	28.87	37½		S. E.	Moderate wind, and foggy, with rain. Many islands of ice. One in particular, which we passed in the afternoon, was near a mile and half long, and very high: It was calm most part of the night, so that we found ourselves very near it in the morning, but observed that several very large pieces had broke off from it. Many great reports, like thunder, were heard in the night, which I conceive were occasioned by these pieces breaking off.

1773		Morn		Noon		Even		Winds	Weather &c.
		Therm	Barom	Therm	Therm	Therm	Therm		
March	5	An almost universal dissolution began, about this time, to take place among these vast and, to us, tremendous bodies of frigid matter. One large Ice Island							
h	6	36 ¹	28,95	37	37			Variable	Moderate wind and cloudy. Saw the southern lights.
O	7	35 ¹	28,57	34 ¹				South	Little wind, with sleet. Saw the South lights.
h	8	35 ¹	28,92	40				S. E.	Little wind and cloudy.
h	9	36 ¹	28,62	37	35			S W	Strong wind, and squally, with rain and sleet.
h	10	33	29,0	35				Variable	Brisk wind and cloudy. Saw sea weed.
h	11	35	29,15	37				East	Moderate wind, with snow and sleet.
h	12	37 ¹	28,97	39 ¹	37			S E	Moderate wind, with drizzling rain.
h	13	35	28,7	36 ¹	35			Variable	Moderate wind. Snow and rain.
O	14	31 ¹	28,87	33				S W	Brisk wind. Snow and rain.
h	15	31 ¹	28,85	34				Westerly	Moderate wind and cloudy. The southern lights very bright at times, and exceeding beautiful. Their colours being vivid, and their motion quick and curious.
h	16	33 ¹	29,12	35 ¹	36			S S W	Brisk wind, and squally, with snow.
h	17	34	29,45	35 ¹				N W	Brisk wind, and cloudy.
h	18	39	29,82	41 ¹				West	Brisk wind, with rain at times. A little after nine o'clock in the evening it was very clear and the southern lights were exceeding bright and beautiful, and appeared of a semicircular, or rainbow like form, whose two extremities were nearly in the east and west points of the horizon. This bow, when it first made its appearance passed a considerable way to the north of the zenith; but rose by degrees, turning, as it were, on its diameter, and passing through the zenith settled at length, towards the southern horizon. These lights were at one time so bright, that we could discern our shadows on the deck.
h	19	41 ¹	29,82	43				N W	Brisk wind and cloudy. Sea weed peng and porpoises.
h	20	45 ¹	29,75	45				West	Strong wind, and hazy.
O	21	45 ¹	29,95	46				N W	Brisk wind, and cloudy; few seals & sea weed.
h	22	45 ¹	29,85	47				S E	Brisk wind with showers.
h	23	47	30,17	49	49			Ditto	Brisk, and cloudy.
h	24	50	29,95	52 ¹	54 ¹			Ditto	Mod wind & foggy with rain. Last sea weed Met &c.
h	25	52	29,85	54	52 ¹			Variable	Brisk wind and squally with rain.
h	26	52	30,15	53 ¹				S W	Moderate wind, and fine weather.
h	27	50	30,28	55				Westerly	Ditto with showers.
O	28	55	30,38	56 ¹				N W	Ditto, and much rain.
h	29		30,41	60				N W	Ditto, with frequent showers.
h	30		30,36	61				North	Strong wind and heavy rain.
h	31		30,14	62 ¹				North	Moderate wind with heavy showers.
April	1		30,03	61				N W	Ditto, and fine weather.
h	2		29,75	56 ¹				N W	Ditto, and showers.
h	3		29,71	58				N N W	Brisk wind, with drizzling rain.
O	4		29,65	58				N N W	Moderate wind, with some heavy showers.
h	5	48 ¹	29,98	54				Variable	Brisk wind, with heavy showers.
h	6	46 ¹	30,24	60 ¹	58 ¹			Ditto	Moderate wind, with much rain.
h	7	49	30,39	52				Ditto	Ditto, with constant heavy rain.
h	8	48	30,22	50 ¹				Ditto	Ditto, and rain without intermission.
h	9	51	30,04	52				Westerly	Ditto.
h	10	50	29,92	51 ¹				N W	Ditto.

1773.		Morn.		Noon.		Even.	Winds.	Weather, &c.
		Therm.	Barom.	Therm.	Therm.			
○	April 11.	48	30,13	54	53		Variable.	Little wind, with frequent showers.
○	12.	47½	30,20	50			Westerly.	
○	13.	50½	30,18	58			Ditto.	
○	14.	52½	29,82	53			Ditto.	Little wind, and almost continued heavy rain.
○	15.	50½	29,99	53			Ditto.	
○	16.	51	30,04	58	54½		Ditto.	
○	17.	55	29,90	56	56		Ditto.	
○	18.	53½	29,95	58½	57½		Easterly.	Little wind, and fine weather.
○	19.	50½	29,85	57½			Ditto.	Ditto.
○	20.	50	29,77	57½	56		Ditto.	Ditto.
○	21.	46½	29,68	55	56		Ditto.	Ditto.
○	22.		29,67	53	45		Ditto.	Moderate wind, and heavy showers.
○	23.		29,76	52½			Westerly.	Gentle breezes, with some showers.
○	24.		29,82	53½			Ditto.	
○	25.		29,95	53½			Ditto.	Little wind, and fine clear weather.
○	26.		29,88	51½			N. E.	Moderate wind, with much rain.
○	27.		30,02	50			N. W.	Ditto, with heavy showers.
○	28.		30,26	47			Westerly.	Light breezes, and cloudy, with showers.
○	29.		30,24	48½			Ditto.	Ditto.
○	30.		30,38				N. E.	Ditto.
○	May 1.		30,39	50½			Variable.	Ditto, with drizzling rain.
○	2.		30,42	51				Calm, with showers.
○	3.		30,23	48				Calm, with continued heavy rain.
○	4.		29,98	51½			Variable.	Gentle breezes, with frequent showers.
○	5.		29,96	46			S. W.	Ditto, with smart showers of rain.
○	6.		30,42	51			N. W.	Moderate wind, with showers.
○	7.		30,23	50½			N. W.	Strong wind, thunder, lightning, hail & rain.
○	8.		30,02	49½			Variable.	Brisk wind, and flying clouds, with showers.
<p>I had frequently to-day, an opportunity of viewing a very curious phenomenon, namely, the descent of the snow on the tops of the prodigiously high, and almost perpendicular hills which every where surrounded us. The atmosphere, in general, was pretty clear, except some very thick whitish clouds, which were continually flying over us. When these came near any hill, they began to extend themselves towards it, and were drawn out into a sort of conical form, the vertex of which was towards the hill. By degrees, the cloud gathered round the top of the hill, and entirely covered it, from which time the cloud grew visibly less dense, and in a little time was totally dispersed, when it appeared that all the part of the hill which had been immersed in the cloud was covered with snow.</p>								
○	9.		30,35	49			N. E.	Brisk wind, and flying clouds.
○	10.		30,01	53			N. E.	Ditto, with showers of hail and rain.
○	11.		30,27	44½			S. W.	Moderate wind, and flying clouds.
○	12.	46	30,32	49			N. W.	Ditto, with showers.
○	13.	53	30,3	55			S. W.	Brisk wind, and cloudy.
○	14.	50	30,47	58			S. E.	Little wind, and hazy weather.
○	15.	53	30,3	56			N. E.	Ditto.
○	16.	56	29,75	59			Westerly.	Brisk wind, in squalls, with rain.

1773	Morn		Noon		Even		Winds	Weather &c
	Therm	Barom	Therm	Barom	Therm	Barom		
May 17	51½	29.65					Southerly	Moderate wind, and flying clouds
<p>afternoon we had an opportunity of observing, in a complete manner as could be wished, one of the most curious, and perhaps the most extraordinary and powerful, of Nature's productions</p> <p>The forenoon had been in general pretty clear but subject to heavy squalls of wind, and some flying clouds, which were very black and heavy, and moved with great velocity from the S W towards the N E (the direction of the wind) About four o'clock in the afternoon it became calm, and the heavens were almost covered with very black clouds, particularly towards the W and N W and presently after we saw several tail like appearances, depending from the clouds in that quarter These appearances were whiter than the clouds they hung from, which made them very conspicuous and they increased gradually, in length, until they extended, as near as I could judge, about one sixth part of the distance between the cloud and the surface of the sea About this time, the water under them began to be violently agitated and lifted up with a whirling motion towards the impending part of the cloud, which, on account of a motion they all had the contrary way to that the wind had blown, was not directly over it, but a little towards the S W As the water rose, the end of the cloud descended, and in a little time they joined, after which the water appeared to me to ascend out of the sea, into the cloud, with great velocity I think that none of these spouts, as they are usually called, continued entire more than ten minutes perhaps not quite so long I saw four complete at one time but there were great numbers which began to form, and were dispersed, by what cause I know not, before the cloud and water joined One of them came, I was told, within 30 or 40 yards of the ship which lay becalmed, but I was then below looking at the Barometer when I got upon deck, it was about 100 fathoms from her It is impossible to say what would have been the consequences if it had gone over her, but I believe they would have been very dreadful At the time when this happened, the Barometer stood at 29.75 inches, and the Thermometer at 56</p> <p>The whole of this passed within the space of an hour, or thereabouts, for at five o'clock a small breeze of wind sprung up in the S E quarter, and dispersed every appearance of this kind, although the black clouds remained until about ten when the wind veered round to the W S W and settled there in a moderate steady gale, and the weather cleared up The annexed plate, No 4, was engraved from a drawing of Mr Hodges, taken at the time, in which he has exhibited the appearance of one of them in three several states, and also the appearance of that which approached so near to the ship</p>								
8	18		29.57	49			S W	Little wind, and fine weather
9	19		29.69	55			Ditto	Ditto
10	20		29.98				Northerly	Moderate wind, and cloudy
11	21		30.11	57			Variable	Ditto, and mostly cloudy
12	22		30.11	56½			Northerly	Ditto, and cloudy
1	23	58	30.16	55½			S W	Little wind, and fine weather
2	24	50	30.35	53	56		Westerly	Brisk wind, and fine weather
3	25		30.15	56			S W	Ditto, and cloudy weather
4	26		29.69	57½			Ditto	Ditto
5	27		29.68	58			Ditto	Ditto
6	28		29.66	58			Ditto	Ditto

1773.	Morn. Therm.	Noon.		Even. Therm.	Winds.	Weather, &c.
		Barom.	Therm.			
h May 29.		29,77	56½		S. W.	Brisk wind, and cloudy weather.
o — 30.	54	29,81	57½	57½	Westerly.	Moderate wind, and fine weather.
d — 31.		30,02	51½		S. W.	Ditto and mostly cloudy, with showers.
h June 1.		30,28	50½		W. S. W.	
h — 2.		30,20	49		S. W.	
h — 3.	48	30,20	51½	54½	Ditto.	Ditto, and fine weather.
h — 4.		30,4	51½		Southerly.	Ditto, and cloudy.
h — 5.		30,41	49½		S. S. E.	Strong wind, with rain.
o — 6.		30,3	51½		Ditto.	Ditto.
d — 7.		30,15	55		North.	Moderate wind, and fine weather.
h — 8.	51½	29,90	52	52	Ditto.	Ditto.
h — 9.	53½	29,82	55		Ditto.	Ditto.
h — 10.	52½	29,7	54		Ditto.	Ditto.
h — 11.	51½	29,77	51½		Ditto.	Moderate wind, and cloudy, with rain.
h — 12.	49½	29,67	51½		Variable.	Moderate wind, with rain.
o — 13.	50	30,0	51½		S. E.	Moderate wind, and cloudy, rain at times.
d — 14.	49½	29,65	49		S. W.	Moderate wind, with drizzling rain.
h — 15.	46	29,7	48½	48	East.	Ditto.
h — 16.	48½	29,75	49		S. E.	Brisk wind, with rain.
h — 17.	49½	29,75	49½		Ditto.	Brisk wind, and cloudy, rain at times.
h — 18.	49½	29,8	48	47½	Ditto.	Brisk wind, and cloudy weather.
h — 19.	47	30,12	48		South.	Moderate wind, and cloudy.
o — 20.	48	30,15	48½		S. W.	Ditto.
d — 21.	48	30,27	50½		Ditto.	Ditto.
h — 22.	50½	30,35	52½		N. W.	Ditto.
h — 23.	49½	30,27	50½		East.	Ditto.
h — 24.	51½	29,47	51½		Ditto.	Strong wind, with rain.
h — 25.	54	29,22			N. E.	Brisk wind, with rain.
h — 26.	54	29,27	55½		East.	Ditto, and cloudy.
o — 27.	52½	29,12	53½		S. W.	Little wind, and foggy.
d — 28.	52	29,4	52½	50½	Variable.	Ditto.
h — 29.	51	29,4	52½	51½	Ditto.	Moderate wind, and cloudy.
h — 30.	49½	29,65	51½		South.	Ditto.
h July 1.	48	29,75	49	49½	Ditto.	Moderate wind, and flying clouds.
h — 2.	45	29,8	47		N. W.	Ditto, and fine weather.
h — 3.	48	29,62	49½	49	N. E.	Ditto, with showers.
o — 4.	49½	29,75	48½	49	S. E.	Ditto, and fine weather.
h — 5.	48	29,85	48	49½	Ditto.	Brisk wind, with rain.
h — 6.	50½	29,67	51		Ditto.	Ditto, and cloudy.
h — 7.	51	29,47	52½		West.	Moderate wind, and fine weather.
h — 8.	51½	29,45	51½	51½	S. W.	Ditto, with showers.
h — 9.	49	29,85	50½	51	N. W.	Ditto, and cloudy.
h — 10.	52½	29,82	51		South.	Brisk wind, and cloudy: rain at times.
o — 11.	45	30,3	47	47½	S. W.	Moderate wind, and fine weather.
d — 12.	47	30,27	49	49	West.	Ditto.
h — 13.	47½	30,27	49½	49	Variable.	Little wind, and fine weather.
h — 14.	48	30,1	50		N. E.	Moderate wind, and cloudy.
h — 15.	49½	29,65	52		South.	Moderate wind, rain, and thick fog.

1773	Morn		Noon		Even	Winds	Weather &c
	Therm	Barom	Therm	Therm			
July 16	46	29.5	46	46½		South	Brisk wind, and cloudy with rain at times
17	44	29.8	44½	45		Ditto	Ditto, with showers of hail and rain
18	47½	30.2	49½	49		S W	Moderate wind, and fine weather
19	51½	30.32	54	58½		South.	Ditto
20	52½	30.15	58½			East	Moderate wind, and cloudy
21	56½	29.62	59½	61		Ditto	Brisk wind, and foggy
22	61	29.62	63	62½		West	Moderate wind, and fine weather rain at times
23	61½	29.85	63½			N. W	Ditto, and cloudy, with rain
24	65	29.85	64½			Ditto	Strong wind in squalls with rain
25	66	29.82	65½	62		Ditto	Strong wind, and heavy rain
26	66	29.90	66½	67		Ditto	Moderate wind, and fine weather
27	67½	30.07	67½	69		Variable	Ditto, and hazy
28	66	30.05	69	68		N W	Little wind, and fine clear weather
29	68	29.97	69½	70		Ditto	Moderate wind, and hazy weather
30	68½	29.92	71			Ditto	Ditto and cloudy, with rain
31		29.92	68	68		Ditto	Little wind and flying clouds
Aug 1	68	29.77	68½			S W	Brisk wind, and squally, with showers
2	68	29.87	69½	70½		West.	Gentle breezes, and fine weather
3	69½	30.05	71½	72½		N W	Ditto
4	72	30.05	74			Ditto	Moderate wind, and fine weather
5	76½	30.02	76½	77½		Ditto	Brisk wind, and fine weather
6	77	30.1	78			Variable	Little wind, and cloudy, with rain at times
After many wishes, and long expectation we this day got the S E Trade wind Its manner of coming on was rather remarkable About 10 o'clock in the morning, a thick haze began to rise in the Eastern quarter, which by noon was become so thick, and had spread so far, that it was with difficulty we got the sun a meridian altitude, but the N W wind, which we had had for about a fortnight, during which time the weather was generally very fine and pleasant, still continued to blow In the afternoon we had some pretty brisk showers, with which the N W wind died away, and it was calm till eight o'clock in the evening, when a brisk, steady gale sprung up at S E, and proved permanent.							
7	73	30.12	75			S E	Brisk wind, and cloudy
8	72½	30.2	75			Ditto	Ditto, and fine weather
9	73	30.22	76½			Ditto	Ditto, with rain at times
10	74½	30.2	78½	77½		East	Ditto, and cloudy
11	75	30.07	78½			Ditto.	Moderate wind, and fine weather
12	76½	30.07	78½	79		Ditto.	Ditto
13	76½	30.1	79½	79		Ditto	Ditto
14	78	30.12	79	79		Ditto	Ditto
15	77	30.1	80	80		Ditto	Ditto
16	79	30.07	80½			Ditto	Ditto
17	75	30.02	81½			S E	Light winds and mostly fine weather
18	73½	30.03	81	80		Variable	Ditto, very hot
19	73½	30.12	80	80		Ditto	Ditto
20	77½	30.1	79½	79½		S E	Ditto
21	84½	30.05	82			Ditto	Ditto
22		30.02	81	80½		N W	Ditto
23	76½	30.05	78			Calm	Strong wind, and cloudy weather
							Very clear, and extremely hot

1773.	Morn. Therm.	Noon.		Even. Therm.	Winds.	Weather, &c.
		Barom.	Therm.			
Aug. 24.	75½	30,02	75½		Variable.	Little wind, and cloudy, with showers.
25.	74½	30,05	78		Ditto.	Ditto, and flying clouds.
26.		30,13			Variable.	Fine weather, and very hot.
27.	69½		84½		Easterly.	Ditto.
28.		30,21	82	78	Ditto.	Ditto.
29.	75	30,2	90		Ditto.	Ditto.
30.	77½	30,2	91	83½	Ditto.	Ditto.
31.	79	30,16	93	89	Ditto.	Ditto.
Sept. 1.		30,0			Variable.	Brisk wind, with flying clouds.
2.	76	29,95	77		Easterly.	Ditto.
3.	75	30,1	76½	77½	Ditto.	Moderate wind, and flying clouds.
4.		30,08	77	78	Ditto.	Ditto, and pleasant weather.
5.		30,08	77½	78½	Ditto.	Ditto.
6.		30,09	79		Ditto.	Ditto.
7.	77½	30,12	79½		Ditto.	Ditto.
8.	79	30,7	85		S. E.	Brisk wind, and very hot.
9.	77½	30,06	81	81½	Ditto.	Moderate wind, with showers.
10.		30,05	80½		Ditto.	
11.	75	30,06	79½		Ditto.	Ditto, and fine weather.
12.	74½	30,13	77	77½	Ditto.	Little wind, and hot sultry weather.
13.	74½	30,12	77	76	Ditto.	Brisk wind, and fine pleasant weather.
14.	74	30,13	76½		Ditto.	Strong wind, with showers.
15.		30,07	77	75½	Ditto.	Ditto.
16.	77½	30,04	77½		Ditto.	Ditto.
17.	72½	29,95	78½	77½	East.	Brisk wind, and pleasant weather.
18.	77	30,07	79	79½	Ditto.	Moderate wind, and flying clouds.
19.	77	30,02	79½	79½	Ditto.	Ditto.
20.		29,97	81½		Ditto.	Mod. wind & cloudy, rain, thunder, & lightn.
21.	78½	30,0	81	80½	Variable.	Ditto, thunder, &c.
22.	74½	29,97	77½	76½	S. E.	Brisk wind, and cloudy, with rain.
23.	69½	30,05	73		Ditto.	Moderate wind, and cloudy.
24.	72½	30,05	74	74½	Ditto.	Brisk wind, and squally, with rain.
25.	72½	30,02	73½	73½	Ditto.	Ditto, and squally.
26.	71½	30,05	73	71	Ditto.	Ditto, and drizzling rain.
27.	71½	30,07	71	70	Ditto.	Ditto, and cloudy.
28.	71	30,07	72½		East.	Moderate wind, and fine weather.
29.	71½	30,07	72½	72½	Ditto.	Ditto.
30.	70	30,12	70	70	S. E.	Brisk wind, and fine weather.
Oct. 1.	67	30,1	70	69	Ditto.	Ditto.
2.	67	30,12	71½	74	Ditto.	Ditto.
3.	70½	30,1	71½	69	Ditto.	Ditto.
4.	69	30,12	71½	72	Ditto.	Ditto.
5.	68	30,12	74½		Ditto.	Ditto.
6.	71½	30,05	75½	73½	Ditto.	Ditto.
7.	72½	30,05	73	74½	Ditto.	Moderate wind, and flying clouds.
8.	73½	29,95	76½	75	S. W.	Ditto.
9.	68½	30,30	73½		S. E.	Moderate wind, and cloudy.
10.	70	30,07	69½	70	Ditto.	Brisk wind, and ditto.

1773		Morn	Noon		Even	Winds	Weather &c
		Therm	Barom	Therm	Therm		
Oct	11	69	30.25	69 $\frac{1}{2}$	69 $\frac{1}{2}$	S E.	Brisk wind, and cloudy
	12	69 $\frac{1}{2}$	30.2	70 $\frac{1}{2}$	70 $\frac{1}{2}$	Ditto	Ditto
	13	66 $\frac{1}{2}$	30.2	70		Ditto	Ditto
	14	66 $\frac{1}{2}$	30.25	66 $\frac{1}{2}$		East	Moderate wind, and cloudy
	15	65	30.32	68 $\frac{1}{2}$	70	Ditto	Brisk wind, and cloudy at times
	16	65	30.27	68	67	N E	Moderate wind and clear weather
	17	63 $\frac{1}{2}$	30.26	69	66	Ditto	Little wind, and fine weather
	18	64	30.2	60		Ditto	Brisk wind, and ditto
	19	64 $\frac{1}{2}$	30.02	66 $\frac{1}{2}$		Variable	Ditto, and mostly cloudy showers
	20	61 $\frac{1}{2}$	29.72	60 $\frac{1}{2}$	61 $\frac{1}{2}$	West	Ditto, and flying clouds
	21	59 $\frac{1}{2}$	29.7	62	63 $\frac{1}{2}$	N W	Ditto
	22	58	29.17	59 $\frac{1}{2}$	60 $\frac{1}{2}$	S W	Brisk wind, and cloudy
	23	51 $\frac{1}{2}$	29.6	53 $\frac{1}{2}$	58	West	Strong wind, and cloudy, with rain
	24	57 $\frac{1}{2}$	29.37	60 $\frac{1}{2}$	62	N W	Strong wind, and cloudy the water in
Dr Lind's Wind gage was depressed 8 10ths of an inch at times We were now under bare poles							
	25	58	29.15	59 $\frac{1}{2}$		S W	Strong wind, and cloudy weather
	26	54 $\frac{1}{2}$	29.52	54	53	Variable	Brisk wind, and cloudy
	27	52 $\frac{1}{2}$	29.57	58	56	N W	Very strong wind and cloudy
	28	56	29.12	58	56 $\frac{1}{2}$	Westerly	Ditto, lightning
	29	51 $\frac{1}{2}$	29.62	52 $\frac{1}{2}$	53	N W	Ditto
	30	54	29.4	58 $\frac{1}{2}$		Ditto	Ditto
	31	55 $\frac{1}{2}$	29.22	57		Variable	Ditto
Nov	1	54 $\frac{1}{2}$	29.22	50 $\frac{1}{2}$		Ditto	Brisk wind, with rain and thick fog
	2	52	29.45	51 $\frac{1}{2}$		S E	Strong wind, and cloudy, with showers
	3	51 $\frac{1}{2}$	29.85	58 $\frac{1}{2}$	58 $\frac{1}{2}$	Variable	Little wind, and fine weather
	4	54	29.82	62 $\frac{1}{2}$		Ditto	Moderate wind, with showers
	5		29.67			Ditto	Brisk wind, with rain, and very cold
	6	52	30.06	61	55 $\frac{1}{2}$	Ditto	Moderate wind, and cloudy weather
	7		30.2	67		Northerly	Brisk wind, and fine weather, mostly
	8	52	29.98	56		Southerly	Cloudy, with rain, and cold raw weather
	9	50	30.2	59	56 $\frac{1}{2}$	Ditto	Wind moderate, and weather warmer
	10	60	29.8	52 $\frac{1}{2}$	61	Variable	Mostly cloudy, with showers
	11		30.08	51 $\frac{1}{2}$		Ditto	Much rain and cold disagreeable weather
	12	61	30.51	67 $\frac{1}{2}$	61	Ditto	Moderate wind, and cloudy
	13	56 $\frac{1}{2}$	30.40	69 $\frac{1}{2}$	64	Southerly	
	14	56 $\frac{1}{2}$	30.33	70	65 $\frac{1}{2}$	Ditto	
	15	61	30.17	67	61 $\frac{1}{2}$	Ditto	Ditto, and fine weather
	16	61	30.09	69 $\frac{1}{2}$	70 $\frac{1}{2}$	Ditto	
	17		29.99	76		Northerly	Brisk winds with rain
	18	70 $\frac{1}{2}$	29.7	73 $\frac{1}{2}$	71 $\frac{1}{2}$	N W	Strong wind with ditto
	19	65	29.5	61		Ditto	Brisk wind, with ditto
	20	51 $\frac{1}{2}$	29.7	62	47 $\frac{1}{2}$	S W	Moderate wind and mostly cloudy showers
	21		29.95	60		N W	Ditto, with heavy rain at times
	22		30.2	61		Ditto	Wind moderate, and fine pleasant weather
	23		30.29	61		Ditto	Moderate wind, and ditto
	24		30.29	66		Variable	Ditto, and flying clouds showers
	25		30.31	61 $\frac{1}{2}$		N W	Brisk wind, and fine weather
	26	61	30.17	63 $\frac{1}{2}$		North	Moderate wind and cloudy

1773.	Morn. Therm.	Noon.		Even. Therm.	Winds.	Weather, &c.
		Barom.	Therm.			
Nov. 27.	63½	29,97	62	61	Variable.	Brisk wind, and flying clouds.
○ — 28.	54	30,2	56		North.	Little wind, and hazy. Rain at times.
▷ — 29.		30,1	55	54½	S. W.	Mod. wind, and cloudy. Sticks & sea-weed.
♂ — 30.	48	29,97	49	49	Ditto.	Brisk wind, and cloudy.
♀ Dec. 1.	48	30,0	49½		Ditto.	Ditto, with fog.
¶ — 2.		29,92	46½		Ditto.	Mod. wind, and foggy. Peng. and sea-weed.
♀ — 3.	44	29,6	47		N. W.	Ditto. Penguins and seals.
¶ — 4.	46½	29,8	47½		S. E.	Little wind, with fog and rain. Penguins.
○ — 5.	45	29,75	46½	46½	Easterly.	Little wind, and fine weather. Seals.
▷ — 6.	47½	29,55	49		North.	Mod. wind, and foggy. Seals and sea-weed.
♂ — 7.	48	28,95	49	48½	N. W.	Brisk wind and foggy, with rain. Drift-wood.
♀ — 8.	50	29,45	43½	43	N. W.	Strong wind, and foggy.
¶ — 9.	44½	29,72	44½	43½	S. W.	Ditto, with rain.
♀ — 10.	36½	29,45	36½	35½	Westerly.	Ditto, with fleet.
¶ — 11.	38½	29,07	39½	39½	S. W.	Brisk wind, with rain and snow. Saw an ice isl.
○ — 12.	31½	29,07	32½	35	Ditto.	Brisk wind, and squally. Snow and hail.
▷ — 13.	30	28,92	32		West.	Brisk wind, and foggy. Much snow and ice.
♂ — 14.	31½	29,07	34½	35	Ditto.	Ditto. Much ice.
♀ — 15.	43	28,87	31		Ditto.	Brisk wind, with snow. Many ice isles.
¶ — 16.	29½	29,42	33		N. E.	Mod. wind, and cloudy; snow. Took up ice for water.
♀ — 17.	31½	29,07	33½	33	North.	Mod. wind, and foggy: snow at times. Ice.
¶ — 18.	33	29,0	33		Ditto.	Ditto, and thick fog. Several ice islands.
○ — 19.	33	28,8	34		Ditto.	Ditto, and foggy. Much ice.
▷ — 20.	33	29,2	33		N. E.	Ditto, and cloudy. Much loose ice.
♂ — 21.	33	28,7	34		Ditto.	Brisk wind, thick fog, and fleet. Many ice isl.
♀ — 22.	31½	28,95	33		North.	Ditto, and foggy. Many ice islands.
¶ — 23.	31½	29,22	35	29½	Ditto.	Mod. wind, and foggy. Abundance of ice.
♀ — 24.	31½	28,62	32	33	N. W.	Ditto. Many islands of ice.
¶ — 25.	33	29,2	34		Ditto.	Little wind, and cloudy. 96 ice isles seen at one time.
○ — 26.	35	29,17	37	35	Ditto.	Ditto. 200 ice isles seen at one time.
▷ — 27.	36	29,0	35	34	N. E.	Ditto. Much ice: Took some up for water.
♂ — 28.	32	28,65	33½		S. E.	Brisk wind, with snow. Some ice islands.
♀ — 29.	33½	28,62	33	34½	Southerly.	Mod. wind, much snow, and many ice isl.
¶ — 30.	32	28,77	34½	37	S. W.	Little wind, and cloudy. Few ice islands.
♀ — 31.	33	29,05	35½	35	Variable.	Little wind, and cloudy, with fleet at times.

• • To-day, while we were observing the meridian altitude of the sun, a shower of snow came from the west, and passed a-head of the ship; during which, a large island of ice, considerably within the visible horizon, and directly under the sun, was entirely hid by it; yet the horizon appeared as distinct, and much the same as it usually does in dark hazy weather. When the shower was over, I found that it required the sun to be dipped something more than his whole diameter to bring his lower limb to the nearest edge of the ice island, which must have been farther off than the visible horizon, during the shower; and yet this would have been taken as the real horizon, without any suspicion, if it had been every where equally obscured. Hence may be inferred the uncertainty of altitudes taken in foggy, or what seamen, in general, call hazy weather.

1774		Moon			Elev	Winds	Weather
		Mer	IL	Th	therm		
h	Jan 1	34	2d 87	36½	37½	S W	Moderate wind, and cloudy, with rain
O	—	34½	9,05	38½		S E	Ditto
D	—	36½	29,12	36	39	N W	Brisk wind with snow and sleet
h	—	44½	29,27	46½		Ditto	Ditto, and foggy with rain
h	—	47	29,22	46½		Ditto	Strong wind, and cloudy some at time
h	—	46	29,22	47	50	Ditto	Brisk wind, and cloudy
h	—	47½	29,25	50	50½	Ditto	Brisk wind, and flying clouds
h	—	47½	29,47	49½	50	West	Ditto
O	—	49	29,7	51		Ditto	Ditto Many birds
D	—	49	29,52	52½		Ditto	Mod wind, and flying cloud Many birds
h	—	43½	29,47	50	50	N W	Brisk wind and squally with shower
h	—	53	29,71	56	55	Ditto	Ditto, and flying clouds
h	—	5	29,45	53½		Ditto	Ditto, and foggy Sea weed
h	—	51	9,41	51½	54½	Ditto	Ditto, and foggy
h	—	48½	29,27	51		Ditto	Strong wind and foggy, with rain
O	—	48	29,77	47½	49	West	Brisk wind and hazy
D	—	43½	29,67	41½	41	Ditto	Ditto, with rain and sleet
h	—	40½	28,9	40	41½	Variable	Ditto and foggy, with rain at time
h	—	39	28,6	39½		Ditto	Ditto, with rain Sea weed
h	—	47½	28,52	40	38	S E	Ditto and cloudy Saw two ice all and
h	—	36	28,57	37	38	Ditto	Ditto and cloudy with sleet at times
O	—	36	28,7	37½		S W	Mod wind snow and rain Several ice all
D	—	37	28,57	38½		S W	Ditto, and cloudy Sleet, and some ice all
h	—	40½	28,57	39		N W	Brisk wind and cloudy One ice all and
h	—	39	28,82	42½	39½	Ditto	Moderate wind and foggy Sleet
h	—		29,05	40	36	N E	Little wind, and cloudy several ice all and
h	—	37	28,72	37½		Ditto	Mod wind, and thick fog Some ice all
h	—	35½	28,85	36	33½	North	Ditto Much look ice
h	—	34½	28,7	36½	33½	Easterly	Mod wind & cloudy, with snow sometime
O	—	31½	28,8	32	32½	E N E	Ditto, and foggy, with snow

*** This morning we discovered a prodigious large field of ice right ahead extending east and west further than could be seen from off the main top of all mountains, with many exceeding high, mountainous parts in it; but when we came nearer, we found its edge which before appeared upright, and of one solid piece, scarce higher than the water and composed of many small pieces close joined together with some pretty large ice islands amongst. I rather in it yet appeared high and mountainous but probably this also was a deception caused by the very great refractive power of the atmosphere, near the horizon in those frigid regions many instances of which I had occasion to mention in the account of my Voyage to, and residence in, Hudson's Bay. Let me add here once for all, that I have had abundant proofs of the effects of these extraordinary refractions on altitudes of the sun, &c taken from the horizon of the sea with Hadley's Quadrant this voyage. For, universally, I believe without a single exception, the east longitude shewn by the Watch K in the morning, fell short of that deduced from it in the afternoon when both were reduced to the same time by the Log, and that sometimes by 10, 12, and even

1774	Morn.		Noon.		Even.	Winds.	Weather, &c.
	Therm.	Barom.	Therm.	Therm.			
15 minutes of longitude: I mean when we were in high latitudes; for, between the tropics, I seldom knew them differ more than 3 minutes, and not often so much as that.							
D	Jan. 31.	33	28,9	34	32½	N. E.	Mod. wind, and foggy. One ice island.
Δ	Feb. 1.	35	28,85	35		Ditto.	Ditto, and cloudy. Several ice islands.
η	2.	35	28,75	37	33½	S. E.	Ditto. One ice island.
η	3.	32½	28,9	35	34½	Ditto.	Little wind, and cloudy.
♀	4.	34	29,0	34½	34½	N. E.	Ditto, and mostly cloudy.
h	5.	37½	28,72	38½	38½	North.	Moderate wind, and cloudy, with snow.
○	6.	36	28,72	39½		S. W.	Ditto, and cloudy: snow and hail.
D	7.	37	28,65	40	38	Ditto.	Ditto, and cloudy. Saw divers.
Δ	8.	39	29,62	41½		Ditto.	Brisk wind, and cloudy, with snow and rain.
η	9.	46½	29,12	47		Ditto.	Brisk wind, with rain.
η	10.	44	29,17	47	47	Ditto.	Strong wind, with clouds and rain.
♀	11.	49	29,45	51	49½	Westerly.	Very strong wind, and cloudy. The water sunk in Dr. Lind's Wind-gage 1/10 of an inch, during the squalls, which was the most I ever saw.
h	12.	47½	29,22	47½	49	Westerly.	Moderate wind, and fine weather.
○	13.	49½	30,0	52	51½	Ditto.	Ditto, and flying clouds.
D	14.	52	30,17	53	51½	Variable.	Ditto, and drizzling rain.
Δ	15.	51	30,07	54		N. W. by W.	Ditto, and foggy, with drizzling rain.
It may not be improper to remark, that in all our long trip to the southward this year, we never once saw the southern lights: indeed I do not recollect a single night that was clear enough.							
η	16.	55	30,0	56		N. W.	Brisk wind, and foggy, with rain.
η	17.	53	29,92	55		Ditto.	Moderate wind, and cloudy.
♀	18.	52	29,92	50½		S. W.	Strong wind in squalls, with rain.
h	19.	55	30,37	58½	59	West.	Moderate wind, and cloudy.
○	20.	61	30,42	66	66	Ditto.	Ditto, and fine weather.
D	21.		30,42	67½		S. W.	Ditto.
Δ	22.	68½	30,47	69		S. E.	Brisk wind, with showers.
η	23.	64½	30,45	69	66½	North.	Moderate wind, and flying clouds.
η	24.	71	30,27	71		N. W.	Ditto.
♀	25.	70	29,95	69	68½	S. W.	Moderate wind, and cloudy, with rain.
h	26.	65½	30,02	65	64½	South.	Brisk wind, and cloudy.
○	27.	64½	30,2	68½	68	Easterly.	Moderate wind, and mostly cloudy.
D	28.	66½	30,22	71½		Variable.	Ditto.
Δ	March 1.		30,2	71½	73½	West.	Little wind, and fine weather.
η	2.		30,17	74	74	N. W.	Ditto.
η	3.	71	30,22	74	75	N. W.	Ditto.
♀	4.	74	30,3	74½	76	Ditto.	Ditto.
h	5.		30,3	75		Variable.	Ditto.
○	6.		30,3	74	73½	East.	Mod. wind, with showers. Saw many pieces of sponge.
D	7.		30,3	74½	74	Ditto.	Ditto, and flying clouds. Sponge & sea-weed.
Δ	8.	73½	30,35	75½		Ditto.	Ditto. Birds, sponge, sea-weed, &c.
η	9.	74½	30,37	77	76½	Ditto.	Ditto. Sea-snakes, sponge, leaves, &c. birds.
η	10.	73½	30,32	76½	76	Ditto.	Ditto. Many birds, sea-weed, &c.
♀	11.	75	30,3	75	75½	N. E.	Ditto. Saw Easter Island.

1774	Morn		Noon		Even	Winds	Weather &c
	Therm	Bar	Therm	Therm	Therm		
March 12	75	30.27	75½	75½	75½	Variable	Little wind, and flying clouds
13	75½	30.4	74	74½	74½	S F	Moderate wind, and flying clouds
14	7½	30.27	74½	74½	74½	E S E	Ditto
15		30.37	73			Easterly	Little wind and very hot weather
16	71	30.22	75	76½	76½	N E	Ditto, and flying clouds
17	75½	30.3	77	76½	76½	Ditto	Moderate wind, and fine weather
18	75½	30.2	76½			Ditto	Ditto
19	74½	30.25	77	76½	76½	East	Ditto
20	75½	30.2	77			Ditto	Brisk wind and mostly cloudy
21	75½	30.25	77			Ditto	Moderate wind and flying clouds
22	74½	30.2	76½	75½	75½	Ditto	Ditto, with showers
23	75½	30.1	77½	75½	75½	N E	Ditto, with flying clouds
24	74	30.1	77	77	77	East	Ditto
25	76½	30.17	78	76½	76½	Ditto	Ditto
26	78	30.1	78½	78½	78½	Ditto	Ditto
27	78½	30.02	80	79	79	Ditto	Ditto
28	78½	30.05	80	80	80	Ditto	Ditto
29	79½	29.97	81	80½	80½	Ditto	Ditto
30	79	30.02	80½	80	80	Ditto	Ditto
31	80	30.0	80½	80½	80½	Ditto	Ditto
April 1	80½	29.97	81	81	81	Ditto	Ditto
2	79½	29.95	81½	81	81	Ditto	Ditto
3	80½	30.02	82	81½	81½	Ditto	Ditto
4	81½	30.0	82½	82½	82½	Ditto	Ditto
5	81½	30.0	83	82½	82½	Ditto	Ditto
6	81½	29.97	83½	82½	82½	Ditto	Ditto
7	77½	30.0	81½	81½	81½	East	Ditto, with showers
8	82	29.97	82½	82½	82½	Ditto	Ditto, with heavy showers
9	82	29.85	84½	84½	84½	Ditto	Brisk wind, in squalls, with showers
10	81	29.87	84½	84½	84½	Ditto	Strong gusts of wind, with showers
11	81½	29.85	85½	85½	85½	E. S E	Squally, with showers
12	84½	30.02	84½	81½	81½	S E	Ditto
13	79	29.97	82½	82½	82½	Ditto	Brisk wind, with showers.
14	81½	29.90	82½	83	83	East	Moderate wind and mostly cloudy
15	82½	30.02	83	82½	82½	Ditto	Brisk wind, and flying clouds
16	82	30.02	83½	83½	83½	Ditto	Brisk winds, and flying clouds
17	81½	30.0	83½			Ditto	Ditto
18	81½	30.07	82½			Ditto	Moderate wind, and flying clouds
19	81½	30.1	82½	82	82	Ditto	Ditto
20	79	30.07	81	79½	79½	Ditto	Ditto
21	81½	30.1	82½			Variable	Ditto, and cloudy, with rain
22		30.03	81½			Ditto	Ditto, and cloudy
23	88½	30.11	88½	82½	82½	Ditto	Ditto, and flying clouds
24	80	30.09	90			Ditto	
25		30.02	78			Ditto	
26	80½	30.03	84½	84½	84½	Ditto	
27	80	30.18	92	84	84	Ditto	
28		30.10	83			Ditto	Moderate wind, and flying clouds, with showers

1774.	Morn.	Noon.		Even.	Winds.	Weather, &c.
		Therm.	Barom.			
♀ April 29.	83 $\frac{1}{2}$	30,05	88 $\frac{1}{2}$	87	East.	Moderate wind, and fine weather.
♂ — 30.	81	30,02	88 $\frac{1}{2}$	86 $\frac{1}{2}$	Ditto.	Ditto.
○ May 1.	83 $\frac{1}{2}$	30,04	90 $\frac{1}{2}$	90 $\frac{1}{2}$	E. N. E.	Ditto.
♂ — 2.		30,11	89 $\frac{1}{2}$		S. W.	Squally, with heavy showers of rain.
♂ — 3.	82 $\frac{1}{2}$	30,03	90	85 $\frac{1}{2}$	Ditto.	Ditto.
♂ — 4.	81	30,03	93	86 $\frac{1}{2}$	Ditto.	Moderate wind, and fine weather.
♂ — 5.		30,02	94 $\frac{3}{4}$	72 $\frac{1}{2}$	East.	Ditto.
♀ — 6.	83	30,02	97	72 $\frac{1}{2}$	Ditto.	Ditto.
♂ — 7.	80	30,02	91 $\frac{1}{2}$	79 $\frac{1}{2}$	Ditto.	Ditto.
○ — 8.	81	30,09	93 $\frac{1}{2}$	93	Ditto.	Ditto.
♂ — 9.	82 $\frac{1}{2}$	30,03	91	84	Ditto.	Ditto.
♂ — 10.		30,03	84	77 $\frac{1}{2}$	Ditto.	Ditto.
♂ — 11.					Variable.	Rainy, unsettled weather.
♂ — 12.		30,09	80 $\frac{1}{2}$		N. E.	Ditto, with thunder and lightning.
♀ — 13.		30,12	81		East.	Moderate wind, and fine weather.
♂ — 14.		30,08	82 $\frac{1}{2}$		E. by N.	Ditto.
○ — 15.		30,15	84 $\frac{1}{2}$	83	S. E.	Ditto.
♂ — 16.	79 $\frac{1}{2}$	30,2	84 $\frac{1}{2}$	81	E. S. E.	Ditto.
♂ — 17.	79	30,15	83	83	E. by S.	Ditto.
♂ — 18.	79	30,12	82 $\frac{1}{2}$	81	East.	Little wind, and frequent showers.
♂ — 19.	77	30,07	80 $\frac{1}{2}$	80 $\frac{1}{2}$	Ditto.	Moderate wind, and fine weather.
♀ — 20.	79	30,09	82 $\frac{1}{2}$	80 $\frac{1}{2}$	Ditto.	Ditto.
♂ — 21.	79	30,11	84	81 $\frac{1}{2}$	Ditto.	Ditto.
○ — 22.	79 $\frac{1}{2}$	30,12	83 $\frac{1}{2}$		Ditto.	Ditto.
♂ — 23.	78 $\frac{1}{2}$	30,05	83 $\frac{1}{2}$		Ditto.	Moderate wind, with showers.
♂ — 24.	79 $\frac{1}{2}$	29,92	83		Variable.	Ditto, and flying clouds.
♂ — 25.	79 $\frac{1}{2}$	29,92	78		S. E.	Ditto, and cloudy, with rain.
♂ — 26.	77 $\frac{1}{2}$	29,45	81 $\frac{1}{2}$		E. S. E.	Ditto.
♀ — 27.	75 $\frac{1}{2}$	30,08	79 $\frac{1}{2}$	80 $\frac{1}{2}$	East.	Brisk wind, and mostly cloudy.
♂ — 28.	76 $\frac{1}{2}$	30,11	80 $\frac{1}{2}$	80 $\frac{1}{2}$	Ditto.	Moderate wind, and fine weather.
○ — 29.	75 $\frac{1}{2}$	30,03	81	81 $\frac{1}{2}$	Ditto.	Ditto.
♂ — 30.	75	30,02	78 $\frac{1}{2}$	82 $\frac{1}{2}$	Ditto.	Ditto.
♂ — 31.	79 $\frac{1}{2}$	29,98	80	81 $\frac{1}{2}$	Ditto.	Ditto.
♂ June 1.	77 $\frac{1}{2}$	29,98	81	81 $\frac{1}{2}$	Ditto.	Ditto.
♂ — 2.	77	29,96	79 $\frac{1}{2}$	81	Ditto.	Ditto.
♀ — 3.	77 $\frac{1}{2}$	29,95	79	81 $\frac{1}{2}$	Ditto.	Ditto.
♂ — 4.	81	30,0	81 $\frac{1}{2}$	81 $\frac{1}{2}$	Ditto.	Ditto.
○ — 5.	79 $\frac{1}{2}$	29,97	82 $\frac{1}{2}$	83	Ditto.	Ditto, and cloudy.
♂ — 6.	81 $\frac{1}{2}$	30,0	82 $\frac{1}{2}$		N. E.	Ditto.
♂ — 7.	79 $\frac{1}{2}$	29,85	81 $\frac{1}{2}$	80	Variable.	Ditto, with rain, thunder, and lightning.
♂ — 8.	78	29,97	80 $\frac{1}{2}$	82	N. E.	Little wind, and cloudy.
♂ — 9.	79	29,87	81	81	Variable.	Moderate wind, and mostly cloudy.
♀ — 10.	76	29,95	77 $\frac{1}{2}$	77 $\frac{1}{2}$	S. E.	Squally, with rain, and much lightning.
♂ — 11.	77	30,05	77 $\frac{1}{2}$	77	Ditto.	Moderate wind, and cloudy, with showers.
○ — 12.	74	30,1	75		Ditto.	Brisk wind, with drizzling rain.
♂ — 13.	75		80	77 $\frac{1}{2}$	Variable.	Moderate wind, and cloudy.
♂ — 14.	75 $\frac{1}{2}$	30,0	75 $\frac{1}{2}$	76 $\frac{1}{2}$	Ditto.	Little wind, and flying clouds.
♂ — 15.	75 $\frac{1}{2}$	30,1	75 $\frac{1}{2}$	75 $\frac{1}{2}$	South.	Ditto.

1774	Morn		Noon		Even		Winds	Weather &c
	Therm	Baron	Therm	Therm	Therm	Therm		
June 16	74½	30,1	75½	74½	74½	74½	South	Moderate wind, and fine weather
17	73½	30,12	75	73	73	73	S E	Ditto.
18	73½	30,12	76½				Ditto	Ditto.
19	74	30,05	77	75	75	75	East	Ditto.
20	75½	30,1	77½	76½	76½	76½	Ditto	Ditto.
21	76	30,05	78	79	79	79	Ditto.	Ditto.
22	76	30,07	77½	76	76	76	Ditto	Ditto.
23	76½	30,07	77½	76½	76½	76½	Ditto	Ditto.
24	76½	30,07	79	78½	78½	78½	N E	Ditto.
25	78	30,12	77½				Variable.	Little wind, and hazy
26	76	30,1	75	78	78	78	Ditto	Ditto, and fine weather
27	74½	30,12	74½	74½	74½	74½	Ditto	Ditto.
28				74½	74½	74½	Ditto	Ditto.
29	74½	30,05	74½	76½	76½	76½	West	Ditto.
30	74½	30,12	75½	72½	72½	72½	S E	Moderate wind, and cloudy weather
July 1	73	30,17	75	73½	73½	73½	Ditto	Ditto.
2	72	30,15	74	72½	72½	72½	Ditto	Ditto, and fine weather
3	71	30,15	74	72½	72½	72½	Ditto	Ditto.
4	74½	30,12	75½	76½	76½	76½	Ditto	Ditto, and cloudy
5	75	30,07	77	77	77	77	Ditto	Ditto.
6	74½	30,15	76½	76½	76½	76½	East	Ditto.
7	75	30,1	77	77½	77½	77½	Ditto	Ditto.
8	75½	30,1	78				North	Ditto.
9	77	29,9	78				South	Little wind, with heavy showers of rain
10	73½	29,92	74½	74	74	74	S E	Brisk wind, in squalls, with rain
11	73	29,9	74	75	75	75	Ditto	Brisk wind, and cloudy
12	74½	29,95	76	75½	75½	75½	Ditto	Ditto.
13	75½	29,97	76	76½	76½	76½	Ditto	Moderate wind, and fine weather
14	76	30,02	78	77½	77½	77½	East	Ditto.
15	76½	30,02	75½	78½	78½	78½	S E	Ditto.
16	78½	30,02	79½				Ditto	Brisk wind, in squalls, with rain
17	78	30,05	76½				Ditto	Heavy squalls of wind and rain
18	75½	30,05	76½	76½	76½	76½	Ditto	Strong wind, and showers
19	75	30,02	76½	76½	76½	76½	Ditto	Ditto.
20		30,12	75	74½	74½	74½	Ditto	Moderate wind, and cloudy
21	74½	30,02	77½	74	74	74	S E	Ditto, and flying clouds
22	74½	30,02	76½	76	76	76	Variable	Little wind and flying clouds
23	76	29,97	80	7½	7½	7½	N E.	Moderate wind, and cloudy weather
24	76	30,0	79½				Variable	Ditto.
25	77½	30,0	80½	79	79	79	Ditto	Little wind, and fine weather
26	78½	30,0	78½	81	81	81	S W	Ditto.
27	74	30,0	74½	74½	74½	74½	Ditto	Ditto.
28	70½	30,02	71½	75	75	75	Ditto	Ditto.
29	70½	30,02	74	72½	72½	72½	S E	Ditto.
30	70½	30,05	72½	76½	76½	76½	Ditto	Ditto.
31	73½	30,1	81	74½	74½	74½	Ditto	Ditto.
Aug 1	73	30,12	73½	76½	76½	76½	Variable	Ditto.
2	73½	30,1	78½	78	78	78	South.	Ditto.

1774.		Morn.		Noon.		Even.	Winds.	Weather, &c.
		Therm.	Barom.	Therm.	Therm.	Therm.		
Aug.	3.	73	30,1	74	74 $\frac{1}{2}$		East.	Little wind, and fine weather.
	4.	70 $\frac{1}{2}$	30,02	78	77 $\frac{1}{2}$		West.	Ditto.
	5.	73 $\frac{1}{2}$	29,89	78			S. E.	Moderate wind, and mostly cloudy.
	6.	70 $\frac{1}{2}$	29,93	74 $\frac{1}{2}$			Ditto.	Moderate wind, and flying clouds.
	7.	71 $\frac{1}{2}$		78 $\frac{1}{2}$	78 $\frac{1}{2}$		Ditto.	Ditto.
	8.	68 $\frac{1}{2}$	30,14	73 $\frac{1}{2}$			Ditto.	Moderate wind, and mostly cloudy.
	9.	71 $\frac{1}{2}$	30,13	73 $\frac{1}{2}$			East.	Moderate wind, and cloudy weather.
	10.	70 $\frac{1}{2}$	30,17	74			N. E.	Ditto.
	11.	71	30,08	77	75 $\frac{1}{2}$		N. N. W.	Moderate wind, with showers.
	12.	72 $\frac{1}{2}$	30,08	83 $\frac{1}{2}$	80 $\frac{1}{2}$		E. S. E.	Moderate wind, and cloudy weather.
	13.	73 $\frac{1}{2}$	30,19	75			N. E.	Little wind, and close, cloudy weather.
	14.	72	30,11	76			N. N. W.	Moderate wind, and mostly cloudy.
	15.	75 $\frac{1}{2}$	30,08	80	81 $\frac{1}{2}$		Ditto.	Little wind, and cloudy.
	16.	76	29,97	79 $\frac{1}{2}$			E. N. E.	Little wind, and flying clouds.
	17.	78 $\frac{1}{2}$	30,12	79 $\frac{1}{2}$	79 $\frac{1}{2}$		East.	Ditto, and cloudy weather.
	18.	73	30,10	78			E. by N.	Moderate wind, and cloudy weather.
	19.	77	30,02	79 $\frac{1}{2}$	78		Westerly.	Little wind, with showers.
	20.	72 $\frac{1}{2}$	30,1	73			S. E.	Brisk wind, and cloudy.
	21.	70 $\frac{1}{2}$	30,15	73 $\frac{1}{2}$	72		Ditto.	Moderate wind, and mostly cloudy.
	22.	70 $\frac{1}{2}$	30,17	75 $\frac{1}{2}$	74		East.	Ditto.
	23.	72 $\frac{1}{2}$	30,15	73 $\frac{1}{2}$			S. E.	Brisk wind, and cloudy.
	24.	78 $\frac{1}{2}$	30,1	81	80 $\frac{1}{2}$		Ditto.	Moderate wind, and cloudy.
	25.	79 $\frac{1}{2}$	30,1	81 $\frac{1}{2}$	81		Ditto.	Ditto.
	26.	76 $\frac{1}{2}$	29,95	80 $\frac{1}{2}$			Ditto.	Little wind, and fine weather.
	27.	74 $\frac{1}{2}$	30,02		79 $\frac{1}{2}$		East.	Ditto.
	28.	78 $\frac{1}{2}$	30,0	78 $\frac{1}{2}$	82 $\frac{1}{2}$		Variable.	Ditto.
	29.	78	30,1	80			S. E.	Ditto.
	30.	76 $\frac{1}{2}$	30,1	79	78		Ditto.	Moderate wind, and fine weather.
	31.	76	30,1	77	79		Ditto.	Ditto.
Sept.	1.	74	30,12	75			East.	Ditto.
	2.	74 $\frac{1}{2}$	30,15	76 $\frac{1}{2}$	76		Ditto.	Moderate wind, and cloudy.
	3.	72	30,1	73 $\frac{1}{2}$	74		Ditto.	Moderate wind, and cloudy; rain at times.
	4.	73	30,15	74	74 $\frac{1}{2}$		S. E.	Little wind, and cloudy.
	5.		30,12	74	75 $\frac{1}{2}$		E. by N.	Ditto.
	6.	70 $\frac{1}{2}$					E. S. E.	Little wind, with flying clouds.
	7.	72 $\frac{1}{2}$	30,05	75			S. E.	Brisk wind, with flying clouds.
	8.	72 $\frac{1}{2}$	30,06	72 $\frac{1}{2}$			E. N. E.	Ditto.
	9.	74 $\frac{1}{2}$	30,11	74 $\frac{1}{2}$	71 $\frac{1}{2}$		Ditto.	} Strong wind, and cloudy, with rain at times.
	10.	71	30,08	75	75		East.	
	11.	70 $\frac{1}{2}$	30,16	76 $\frac{1}{2}$	73		Ditto.	} Brisk wind, and cloudy weather.
	12.	72 $\frac{1}{2}$	30,14	76 $\frac{1}{2}$	73 $\frac{1}{2}$		Ditto.	
	13.	72	30,1	77			Ditto.	Moderate wind, and fine weather.
	14.	74 $\frac{1}{2}$	30,07	76 $\frac{1}{2}$	79		Ditto.	Moderate wind, and cloudy weather.
	15.	74	29,92	80	83		N. E.	Little wind, and fine weather.
	16.	76	30,02	77 $\frac{1}{2}$	80 $\frac{1}{2}$		Variable.	Little wind, and hazy weather.
	17.	75	30,06	77 $\frac{1}{2}$	76 $\frac{1}{2}$		East.	Little wind, and fine weather.
	18.	75 $\frac{1}{2}$	30,15	79			Ditto.	Little wind, and cloudy; rain at times.
	19.	72	30,15	73 $\frac{1}{2}$			Ditto.	Ditto.

1774.	Morn Therm	Noon		Even Therm	Winds.	Weather &c
		Barom	Therm			
Sept 20	73	30,12	73 $\frac{1}{2}$	73	East	Moderate wind, and fine weather
21	71	30,15	73 $\frac{1}{2}$	73 $\frac{1}{2}$	Variable	Ditto
22	71 $\frac{1}{2}$	30,12	73 $\frac{1}{2}$	72 $\frac{1}{2}$	Ditto	Ditto
23	71	30,15	73	73 $\frac{1}{2}$	Ditto.	Little wind, and fine weather
24	72	30,12	73	72	Ditto	Ditto
25	71 $\frac{1}{2}$	30,15	73 $\frac{1}{2}$	74 $\frac{1}{2}$	Ditto	Ditto
26	72	30,17	73 $\frac{1}{2}$	73 $\frac{3}{4}$	S E	Ditto.
27	68 $\frac{1}{2}$	30,17	68 $\frac{1}{2}$	69	Ditto	Brisk wind, and fine weather
28	68 $\frac{1}{2}$	30,2	71	69 $\frac{1}{2}$	East	Ditto, and cloudy, with showers
29	70	30,17	74	74 $\frac{1}{2}$	Ditto.	Moderate wind and fine weather
30	71	30,05	73	75 $\frac{1}{2}$	Variable	Little wind, and fine weather
Oct 1	68	29,85	70 $\frac{1}{2}$	69 $\frac{1}{2}$	South.	Brisk wind, and fine weather
2	66	29,92	66 $\frac{1}{2}$	69 $\frac{1}{2}$	S W	Little wind, and fine weather
3	68	29,87	68 $\frac{1}{2}$	68 $\frac{1}{2}$	Ditto	Brisk wind in squalls, with showers
4	66	29,97	69 $\frac{1}{2}$	69	West	Squally weather, with fog and rain
5	64 $\frac{1}{2}$	29,95	64 $\frac{1}{2}$	65 $\frac{1}{2}$	S W	Brisk wind, and fine weather
6	62	30,22	65	68 $\frac{1}{2}$	Calm	Little wind, and cloudy weather
7	63	30,3	71		S E	Ditto
8	64 $\frac{1}{2}$	30,3	65 $\frac{1}{2}$	62 $\frac{1}{2}$	Ditto	Moderate wind, and fine weather
9	62 $\frac{1}{2}$	30,32	64 $\frac{1}{2}$	62 $\frac{1}{2}$	South	Ditto
10	61 $\frac{1}{2}$	30,25	63 $\frac{1}{2}$		S E	Ditto
11	65	30,2	66 $\frac{1}{2}$	64 $\frac{1}{2}$	East	Ditto
12	63 $\frac{1}{2}$	30,25	66 $\frac{1}{2}$	65	N E	Ditto
13	62	30,22	65 $\frac{1}{2}$	63	Ditto	Ditto
14	61 $\frac{1}{2}$	30,17	65 $\frac{1}{2}$	61 $\frac{1}{2}$	Ditto	Ditto
15	60	30,02	65 $\frac{1}{2}$		North	Brisk wind, and cloudy weather
16	59 $\frac{1}{2}$	29,82	63 $\frac{1}{2}$		Variable.	Ditto, with lightning and rain
17	58	29,55	59	59 $\frac{1}{2}$	West	Strong wind, and cloudy, with showers
18		29,64	55 $\frac{1}{2}$		Ditto	Brisk wind, and cloudy
19		29,87	57		S W	Strong gusts of wind with rain, and cold weather
20		29,97	55		Ditto	Strong wind weather cold and rainy
21		29,19	58 $\frac{1}{2}$		Westerly	Moderate wind, and fine weather
22		29,74	61	61 $\frac{1}{2}$	S S E	Ditto
23	63 $\frac{1}{2}$	30,1	65	65 $\frac{1}{2}$	Ditto	Ditto
24	65	30,04	70	64	S W	Ditto, and cloudy weather
25	65 $\frac{1}{2}$	29,68	67 $\frac{1}{2}$		Variable	Moderate wind, and mostly cloudy
26	69 $\frac{1}{2}$	29,67	71	66 $\frac{1}{2}$	Westerly	Ditto, and cloudy
27	56	29,72	58 $\frac{1}{2}$		Ditto	Ditto
28	62 $\frac{1}{2}$	29,67	68	64	Southerly	Ditto, and mostly cloudy, with rain
29	55 $\frac{1}{2}$	29,42	58 $\frac{1}{2}$		S E.	Ditto, and cloudy
30	55	29,43	56 $\frac{1}{2}$		Ditto	Strong wind, and heavy rain
Nov 1	63	29,6	68	67	Variable	Moderate wind, and fine weather
2	63 $\frac{1}{2}$	29,7	66		S E	Strong wind, and fine weather
3	61	29,38	65 $\frac{1}{2}$	43	S S W	Brisk wind and fine weather
4	62	29,51	63	48	S W	Moderate wind, and fine weather
5	69	29,55	72 $\frac{1}{2}$	53	Ditto	Ditto
6	62 $\frac{1}{2}$	29,75	73 $\frac{1}{2}$	66	Variable	Brisk wind, and hazy weather
	59 $\frac{1}{2}$	29,78	59 $\frac{1}{2}$		Ditto	Brisk wind, and drizzling rain

1774.		Morn.	Noon.		Even.	Winds.	Weather, &c.
		Therm.	Barom.	Therm.	Therm.		
Nov.	7.	56	29.5	58 $\frac{1}{2}$	58	Variable.	Strong wind, and heavy rain.
	8.	55 $\frac{1}{2}$	29.4	64		S. W.	Brisk wind, and cloudy weather.
	9.	60	29.35	62	62	Westerly.	Moderate wind, mostly cloudy, with rain.
	10.	58 $\frac{1}{2}$	29.6	64 $\frac{1}{2}$		Variable.	Ditto, and cloudy weather.
	11.	58	29.65	60	62 $\frac{1}{2}$	N. W.	Little wind, and cloudy.
	12.	58	29.6	61 $\frac{1}{2}$	64	Westerly.	Moderate wind, and ditto.
	13.	54 $\frac{1}{2}$	29.75	56		N. N. E.	Little wind, and foggy weather.
	14.	54	29.42	53 $\frac{1}{2}$		Westerly.	Brisk wind, and foggy, with rain.
	15.	49 $\frac{1}{2}$	29.42	51 $\frac{1}{2}$	52	Ditto.	Moderate wind, with rain.
	16.	47 $\frac{1}{2}$	29.45	50	52	East.	Brisk wind, and fine weather.
	17.	48 $\frac{1}{2}$	29.35	50 $\frac{1}{2}$	51	N. W.	Ditto, and cloudy, with rain.
	18.	47 $\frac{1}{2}$	29.45	50 $\frac{1}{2}$		North.	Ditto, and foggy.
	19.	48	29.5	49		Ditto.	Ditto.
	20.	45 $\frac{1}{2}$	29.7	46		N. E.	Moderate wind, and foggy.
	21.	44	28.85	43 $\frac{1}{2}$		N. W.	Strong wind, thick fog, and rain.
	22.	43 $\frac{1}{2}$	29.4	44 $\frac{1}{2}$		Southerly.	Moderate wind, and foggy.
	23.	43	29.45	44 $\frac{1}{2}$	48 $\frac{1}{2}$	West.	Little wind, and foggy weather.
	24.	42 $\frac{1}{2}$	29.85	46		N. W.	Brisk wind, and foggy weather: Penguins.
	25.	43	29.87	45 $\frac{1}{2}$	43 $\frac{1}{2}$	Ditto.	Ditto, and fine weather.
	26.	43	29.85	43 $\frac{1}{2}$		Ditto.	Ditto, and foggy: Many birds.
	27.	43 $\frac{1}{2}$	29.77	44 $\frac{1}{2}$	43 $\frac{1}{2}$	North.	Ditto, and cloudy.
	28.	43 $\frac{1}{2}$	29.62	43 $\frac{1}{2}$		N. W.	Strong wind, with rain and thick fog.
	29.	45 $\frac{1}{2}$	29.75	45 $\frac{1}{2}$		Ditto.	Moderate wind, and foggy: Sea-weed.
	30.	45	29.97	47 $\frac{1}{2}$		N. E.	Little wind, and thick fog.
Dec.	1.	45	29.57	45 $\frac{1}{2}$		S. E.	Moderate wind, and foggy, with rain.
	2.	44	29.47	45 $\frac{1}{2}$		Ditto.	Ditto.
	3.	43	29.27	45		Ditto.	Ditto.
	4.	40	29.15	41 $\frac{1}{2}$	41 $\frac{1}{2}$	S. W.	Brisk wind, and cloudy.
	5.	41 $\frac{1}{2}$	29.37	43 $\frac{1}{2}$		Ditto.	Ditto, snow and rain.
	6.	39 $\frac{1}{2}$	29.35	43	43	West.	Ditto, snow and hail.
	7.	43	29.2	46 $\frac{1}{2}$	48	Ditto.	Moderate wind, and cloudy, with showers.
	8.	43 $\frac{1}{2}$	29.05	47		N. W.	Ditto.
	9.	43 $\frac{1}{2}$	28.92	47 $\frac{1}{2}$		Easterly.	Little wind, and foggy, with rain. Sea-weed.
	10.	44	28.82	46 $\frac{1}{2}$	44 $\frac{1}{2}$	S. W.	Brisk wind, and cloudy: rain at times.
	11.	42 $\frac{1}{2}$	28.75	44	44 $\frac{1}{2}$	West.	Ditto, and cloudy.
	12.	43 $\frac{1}{2}$	28.77	44 $\frac{1}{2}$	46 $\frac{1}{2}$	Variable.	Ditto, and fine weather.
	13.	52	28.75	47	45 $\frac{1}{2}$	West.	Moderate wind, and cloudy.
	14.	44 $\frac{1}{2}$	28.9	46 $\frac{1}{2}$	45 $\frac{1}{2}$	Ditto.	Brisk wind, and fine weather.
	15.	44 $\frac{1}{2}$	29.05	46 $\frac{1}{2}$	45 $\frac{1}{2}$	Ditto.	Ditto, and squally, with rain.
	16.	44	29.17	46	46 $\frac{1}{2}$	Ditto.	Moderate wind, & fine weather, Penguins, sea-weed, & seals.
	17.	45	29.17	47	47	Ditto.	Squally, with showers. Made Cape Disceada.
	18.		29.4	47	50	N. W.	Brisk wind, and fine weather.
	19.	45 $\frac{1}{2}$	29.55	50 $\frac{1}{2}$	48	N. E.	Little wind, and fair weather.
	20.	47 $\frac{1}{2}$	29.62	54	53 $\frac{1}{2}$	East.	Ditto.
	21.	52	29.52	57		N. N. W.	Wind moderate, and fine weather, but cold.
	22.		29.68	58 $\frac{1}{2}$		East.	Little wind, and cloudy, with showers.
	23.	47 $\frac{1}{2}$	29.89	51 $\frac{1}{2}$	49 $\frac{1}{2}$	Variable.	Moderate wind, with showers, and cloudy.
	24.	46	29.82	50	49 $\frac{1}{2}$	Ditto.	Ditto, and mostly cloudy.

1775.		Moon.			Even.	Winds.	Weather, &c.
		Therm.	Barom.	therm.	Therm.		
○	Feb. 5.	36 $\frac{1}{2}$	29,15	38 $\frac{1}{2}$	37	Westerly.	Moderate wind, and foggy. Six ice islands.
○	6.	36	29,17	38		N. and W.	Brisk wind, and cloudy. Snow at times. Ice.
○	7.	34 $\frac{1}{2}$	29,0	37 $\frac{1}{2}$	35 $\frac{1}{2}$	S. W.	Strong wind, and cloudy. Several ice islands.
○	8.	35 $\frac{1}{2}$	29,17	37 $\frac{1}{2}$		Ditto.	Moderate wind, and cloudy. Ice islands.
○	9.	35 $\frac{1}{2}$	29,25	40	40	Variable.	Little wind, and cloudy, with snow. Ice.
○	10.	33	29,32	34 $\frac{1}{2}$	34	S. W.	Brisk wind, and mostly cloudy. Ice.
○	11.	33 $\frac{1}{2}$	29,52	36 $\frac{1}{2}$		Variable.	Little wind, and cloudy: snow at times. Ice.
○	12.	32 $\frac{1}{2}$	29,17	37 $\frac{1}{2}$	35 $\frac{1}{2}$	S. E.	Little wind, and mostly cloudy. Much ice.
○	13.		28,97	33		Ditto.	Moderate wind, and cloudy: snow at times.
○	14.	29	28,92	32 $\frac{1}{2}$	37	S. W.	Brisk wind, and squally weather. Some ice.
Having completed 36° of Longitude, I here dropped the circle, and repeated a day.							
○	14.	34 $\frac{1}{2}$	29,27	35 $\frac{1}{2}$	35 $\frac{1}{2}$	S. W.	Brisk wind, and cloudy: snow at times. Ice.
○	15.	35 $\frac{1}{2}$	28,97	36 $\frac{1}{2}$		East.	Little wind, and cloudy: sometimes fleet.
○	16.	33	28,87	33	33 $\frac{1}{2}$	Southerly.	Brisk wind, with fleet. Several ice islands.
○	17.	33	29,57	36	36 $\frac{1}{2}$	N. and W.	Moderate wind, and fine weather. Some ditto.
○	18.	33	29,47	34 $\frac{1}{2}$		North.	Brisk wind, and cloudy, with fleet. Several ditto.
○	19.		28,92	35 $\frac{1}{2}$		W. N. W.	Ditto, and foggy, with fleet.
○	20.	34 $\frac{1}{2}$	28,95	40		Variable.	Ditto, and cloudy. Little ice.
○	21.	35	29,2	37	37	Westerly.	Moderate wind, and cloudy: snow at times.
○	22.	34	29,42	36		Northerly.	Brisk wind, and cloudy: snow & fleet. Whales.
○	23.	35 $\frac{1}{2}$	28,97	35 $\frac{1}{2}$		N. W.	Ditto: snow at times.
○	24.	37	28,95	38 $\frac{1}{2}$		Ditto.	Strong wind, and squally weather. One ice isl.
○	25.	37 $\frac{1}{2}$	29,72	41		Ditto.	Moderate wind, and mostly cloudy, with fog.
○	26.	39 $\frac{1}{2}$	29,97	45 $\frac{1}{2}$		Ditto.	Brisk wind, and foggy. Saw sea-weed.
○	27.	45	29,87	47		North.	Ditto, with rain. Penguins, &c.
○	28.	48 $\frac{1}{2}$	29,90	49	43 $\frac{1}{2}$	Variable.	Moderate wind, and foggy: rain at times.
○	March 1.	43 $\frac{1}{2}$	29,7	47		N. W.	Brisk wind, and foggy: ditto.
○	2.	45 $\frac{1}{2}$	29,62	47	43	West.	Ditto, and foggy weather.
○	3.	42	30,02	44	44	N. W.	Ditto, and cloudy.
○	4.	51 $\frac{1}{2}$	29,92	55	57	North.	Ditto, and fine weather.
○	5.	53	29,5	50 $\frac{1}{2}$		N. W.	Ditto, and foggy weather.
○	6.	51 $\frac{1}{2}$	29,82	52 $\frac{1}{2}$	54	West.	Ditto, and cloudy.
○	7.	57	29,95	61 $\frac{1}{2}$	60 $\frac{1}{2}$	N. W.	Ditto.
○	8.	61 $\frac{1}{2}$	29,87	64		North.	Moderate wind, and cloudy.
○	9.	62	29,57	63 $\frac{1}{2}$	56 $\frac{1}{2}$	West.	Moderate wind, and cloudy, with rain.
○	10.	53 $\frac{1}{2}$	29,82	52 $\frac{1}{2}$	52 $\frac{1}{2}$	S. W.	Moderate wind, and cloudy.
○	11.	51	30,02	51 $\frac{1}{2}$		West.	Little wind, and cloudy weather.
○	12.	59	30,12	62	63 $\frac{1}{2}$	Variable.	Moderate wind, and ditto.
○	13.	67	29,85	71	72 $\frac{1}{2}$	N. W.	Brisk wind, and squally, with showers.
○	14.	70 $\frac{1}{2}$	29,65	72 $\frac{1}{2}$	70 $\frac{1}{2}$	Ditto.	Strong wind, and cloudy.
○	15.	69	29,87	72 $\frac{1}{2}$	69	West.	Brisk wind, and cloudy weather.
○	16.	66	30,2	69	68 $\frac{1}{2}$	Variable.	Little wind, and fine weather.
○	17.	69	30,15	70	69 $\frac{1}{2}$	Westerly.	Moderate wind, and ditto.
○	18.	38	30,05	70 $\frac{1}{2}$		S. W.	Ditto, and cloudy.
○	19.	65 $\frac{1}{2}$	30,2	65 $\frac{1}{2}$	65 $\frac{1}{2}$	S. E.	Brisk wind, and ditto.
○	20.	65	30,07	66 $\frac{1}{2}$		Ditto.	Variable weather.
○	21.		30,08	75	76 $\frac{1}{2}$	Ditto.	Moderate wind, and fine weather.

1775	Morn		Noon		E en	Winds	Weather &c
	Th	rm	lar m	Th rm	Th rm		
March 22			30,03	77			
23							
24							
25				73			
26	66		29,92	69			
27	59		30,07	64	63 $\frac{1}{2}$		
28	57 $\frac{1}{2}$		30,28	65 $\frac{1}{2}$	65		
29	65 $\frac{1}{2}$		30,2	71	69 $\frac{1}{2}$		
30	68 $\frac{1}{2}$		30,15	73 $\frac{1}{2}$	73		
31	64 $\frac{1}{2}$		30,04	71	69 $\frac{1}{2}$		
April 1	66		30,05	71 $\frac{1}{2}$	70		
2	69		30,1	75	75		
3	66 $\frac{1}{2}$		30,08	73 $\frac{1}{2}$			
4	67 $\frac{1}{2}$		30,05	80			
5	73		30,0	78 $\frac{1}{2}$	80 $\frac{1}{2}$		
6	69 $\frac{1}{2}$		29,94	81	80 $\frac{1}{2}$		
7	72		29,98	75			
8			30,03	72			
9	71 $\frac{1}{2}$		30,01	75 $\frac{1}{2}$	71		
10	69 $\frac{1}{2}$		29,9	77	76		
11	66		29,86	68	65 $\frac{1}{2}$		
12	65		30,02	69	63 $\frac{1}{2}$		
13	63 $\frac{1}{2}$		30,02	68 $\frac{1}{2}$	67 $\frac{1}{2}$		
14	61 $\frac{1}{2}$		30,02	69 $\frac{1}{2}$	64		
15	61		30,01	68	67		
16	63 $\frac{1}{2}$		30,0	69 $\frac{1}{2}$	64		
17	61 $\frac{1}{2}$		29,95	65	61 $\frac{1}{2}$		
18	64 $\frac{1}{2}$		30,17	64 $\frac{1}{2}$	66		
19	66		30,18	70	70 $\frac{1}{2}$		
20	67		30,04	73 $\frac{1}{2}$	73 $\frac{1}{2}$		
21	63 $\frac{1}{2}$		29,94	68 $\frac{1}{2}$			
22	62		29,87	63 $\frac{1}{2}$			
23	59 $\frac{1}{2}$		29,84	64 $\frac{1}{2}$	65		
24			30,0	66			
25			30,15	66			
26						N W	
27			30,34	62		S W by S	Cloudy, with showers, and brisk wind
28	63 $\frac{1}{2}$		30,32	68 $\frac{1}{2}$		South	Moderate wind, and cloudy
29	64		30,07	66		S S E	Brisk wind, and fine weather
30	62		30,15	63 $\frac{1}{2}$		Ditto	Ditto
May 1	63 $\frac{1}{2}$		30,2	66 $\frac{1}{2}$	65	Ditto	Moderate wind, and fine weather
2	64 $\frac{1}{2}$		30,05	66 $\frac{1}{2}$	66 $\frac{1}{2}$	S E. by E	Ditto
3	67		30,0	69	67 $\frac{1}{2}$	S E	Ditto
4	66 $\frac{1}{2}$		30,0	67 $\frac{1}{2}$	67	Ditto	Ditto
5	67		30,07	67		Variable.	Little wind, and fine weather
6	64 $\frac{1}{2}$		30,15	66	67	Calm.	Drizzling rain at times, but fine weather
7	65 $\frac{1}{2}$		30,2	67 $\frac{1}{2}$	66	S S E	Moderate wind, and cloudy rain at times
8	65 $\frac{1}{2}$		30,22	68	66 $\frac{1}{2}$	Ditto	Moderate wind, and cloudy
						Ditto	Ditto and fine weather

ON BOARD THE RESOLUTION.

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1775.		Morn.	Noon.		Even.	Winds.	Weather, &c.
		Therm.	Barom.	Therm.	Therm.		
♂	May 9.	67½	30,22	68½	68½	S. E. by S.	Moderate wind, and fine weather.
♀	10.	67½	30,17	69½		S. E.	Little wind, and cloudy.
♂	11.	68	30,15	70½	69½	East.	Little wind, and fine weather.
♀	12.	69½	30,22	72½	69	S. E.	Ditto.
♂	13.	70½	30,2	74	72½	S. E.	Ditto.
♀	14.	69½	30,15	72½	70½	S. E.	Ditto.
♂	15.	71	30,2	72	72½	S. S. E.	Moderate wind, and cloudy.
♀	16.	73½	30,12	75½	73	S. E.	Little wind, and cloudy, with showers.
♂	17.	71	30,17	73	73½	S. E.	Brisk wind, with drizzling rain.
♀	18.		30,2	72½		S. E.	Little wind, and cloudy weather.
♂	19.			76½		S. E.	Ditto.
♀	20.			76		Variable.	Little wind, with showers.
♂	21.					S. E.	Ditto.
♀	22.	70		70		S. E.	Moderate wind, with rain.
♂	23.	72½	30,15	74½		East.	Brisk wind, and cloudy, with showers.
♀	24.	72½	30,17	73		E. S. E.	Moderate wind, and cloudy.
♂	25.	72½	30,1	75	75	S. E. by E.	Brisk wind, and fine weather.
♀	26.	75	30,02	77½	77½	E. by S.	Moderate wind, and fine weather.
♂	27.	76½	30,02	79	79	S. E.	Ditto.
♀	28.	77½	30,07	78½	78½	S. E.	Brisk wind, and cloudy weather.
♂	29.	76	30,02	79		S. E.	Mod. wind, flying clouds, and fine weather.
♀	30.		30,07	80½		S. E.	Ditto.
♂	31.	75½	30,1	82	80½	E. S. E.	Moderate wind, and heavy showers.
♀	June 1.	77	30,15	79½	78	S. E.	Moderate wind, and fine weather.
♂	2.	77	30,12	78½	77	S. E.	Ditto.
♀	3.	75½	30,12	78	77	S. E.	Ditto.
♂	4.	77	30,07	79½	79½	S. E. by E.	Ditto.
♀	5.	78½	30,12	80	79	S. E. by E.	Ditto.
♂	6.	79½	30,12	81½	79½	S. E. by E.	Ditto.
♀	7.	79½	30,15	81	81	S. E. by E.	Brisk wind, and fine weather.
♂	8.	80	30,1	82½	80	E. S. E.	Ditto.
♀	9.	80½	30,02	82	81½	E. S. E.	Ditto.
♂	10.	80	30,05	82½	81	E. S. E.	Brisk wind, and cloudy.
♀	11.	79½	30,0	81	80	E. S. E.	Squally, with heavy showers.
♂	12.	80½	30,05	81½	81	E. by S.	Ditto.
♀	13.	80	30,07	81½		East.	Moderate wind, and showers.
♂	14.	77½	30,05	79½	79½	East.	Little wind, and showers.
♀	15.	77½	30,07	78½		S. E. by E.	Ditto, and heavy rain.
♂	16.	77	30,07	81½	80½	Variable.	Ditto, and cloudy.
♀	17.	76½	30,05	79	79½	S. E.	Ditto, and hot sultry weather.
♂	18.	76½	30,05	78	80½	Variable.	Ditto, and frequent showers.
♀	19.	79½	30,07	82	79½	N. E.	Ditto.
♂	20.	80	30,02	81	80½	N. E.	Little wind, and fine weather.
♀	21.	79½	30,05	83	81	N. E.	Brisk wind, and fine weather.
♂	22.	80	30,05	84½	80½	N. E.	Moderate wind, and fine weather.
♀	23.	78	30,02	80	80	N. E.	Ditto.
♂	24.	76½	30,1	78½	78	E. N. E.	Moderate wind, and cloudy.
♀	25.	76	30,1	82½	79	N. E. by E.	Brisk wind, and cloudy.

1775	Morn		Noon		Ev n	Winds	Weather &c
	Therm	Barom	Therm	Therm			
June 26	76	30,19	78½	78½	N E by E	Brisk wind, with showers	
27	75½	30,17	78	77	E N E	Moderate wind, and fine weather	
28	75	30,22	78	80	East	Brisk wind, and cloudy showers	
29	75½	30,27	78		E by N	Moderate wind, and cloudy	
30	76½	30,37	80½	80	Ditto	Brisk wind, and fine weather	
July 1	74½	30,45	76½	76	East	Moderate wind, and fine weather	
2	73½	30,37	75	75½	E S E.	Moderate wind, and cloudy	
3	74	30,4	74	75	Ditto	Ditto	
4	73½	30,45	75	74	East	Ditto	
5	73	30,5	75	76	Ditto	Little wind, and fine weather	
6	74½	30,52	76½	75	Calm	Fine weather	
7	74	30,5	77½	76½	E S E.	Little wind, and fine weather	
8	74	30,42	76½	79½	Variable	Ditto	
9	73½	30,35	76½	78½	S W	Ditto	
10	74	30,35	76½	76½	Ditto	Ditto	
11	76½	30,32	76	76	S S W	Brisk wind, and cloudy	
12	73	30,32	75½	75	Ditto	Ditto	
13	72	30,3	74½	74	S by W	Moderate wind, and flying clouds.	
14	71½				S W	Ditto	
15			76½		Ditto	Brisk wind, and cloudy	
16			76½		N W	Moderate wind, and cloudy	
17			76½		West	Ditto, and mostly cloudy	
18			77½		Westerly	Ditto, and fine weather	
19	7½	30,15	78	74	S W	Brisk wind, and cloudy, with rain.	
20	67½	30,17	75½	77½	N E	Moderate wind, and mostly cloudy	
21	69½	30,17	70½	74	N N E	Ditto, and fine weather	
22	66½	30,1	74½	73½	N W	Ditto	
23	66½	30,02	69½	72	Ditto	Brisk wind, and fine weather	
24	65½	29,95	69½	70	Ditto	Ditto, with showers	
25	63½	30,06	67	68	West	Moderate wind, and fine weather	
26	60½	29,77	64	63½	Ditto	Brisk wind, and squally	
27	62½	29,72	64½	69	Ditto	Moderate wind, and fine weather	
28	61½	29,75	64½	65	Ditto	Ditto	
29	61½	29,85	62½	64	N W	Brisk wind, and hazy weather	
30	60½				Westerly	Moderate wind, and fine weather	

In the preceding Journal, the civil day is to be understood; namely, from midnight to midnight. In my account of the weather, I have endeavoured to be as particular as possible, consistent with the plan I had prescribed to myself, of confining the remarks of one day to a line, except on some particular occasions, where the circumstances required, and, as I thought, merited a more ample description. And as many of the terms which I have made use of, though meant here to convey very different ideas, may be looked upon, and are really used by some persons, as synonymous; I shall here endeavour to give a short explanation of the sense I would wish them to be understood in. By the term *Fine Weather*, is to be understood such weather as was in general clear at least where few clouds were abroad if the word *Clear* occurs, it is to be understood that the air was at that time remarkably clear and serene. By

Flying Clouds, I express that weather where we had large clouds, obscuring a considerable part of the hemisphere; but which moved pretty quick, and did not continue long in a place. I have put *Mostly Cloudy* on those days, the greater part of which the heavens were overspread with settled clouds, but whereof some parts of the day were pretty clear. Those days are called *Cloudy* whereon the sun was but seldom, or perhaps never distinctly seen: the term also includes those days on which he was not seen at all. By the term *Showers*, I wish to express those days whereon we had alternately rain and fine weather; and by *Rain* at times, those on which the sky did not clear up between the showers, but remained settled cloudy weather. *Cloudy, with Rain*, denotes rain for the greater part of the day, at least; and also those days on which we had constant rain from the beginning to the end, of which we had some few. Those days are denominated *Hazy* on which the face of the heavens was overspread, as it sometimes is, with a thin grey cloud; or when the fine blue sky was in some measure obscured by a very thin mist. The terms *Foggy*, and *Thick Fog*, as well as the degrees of comparison which are annexed to the wind, will, I flatter myself, be sufficiently understood without farther explanation.

It may be necessary to add, that it always froze when my thermometer fell to 33° , and sometimes when it stood at $33^{\circ}\frac{1}{2}$; and, therefore, I conceive the freezing point, on that thermometer, should not be taken lower than the last-mentioned number.

A Z I M U T H S

O F T H E

S U N ' S C E N T E R ,

Taken with an A Z I M U T H C O M P A S S ;

T O G E T H E R W I T H

The Altitudes of his Lower Limb, taken at the same Time, with H A D L E Y ' s S e x t a n t ,

F O R

D e t e r m i n i n g t h e V a r i a t i o n o f t h e M A G N E T I C N E E D L E ,

O n B o a r d H i s M A J E S T Y ' s S l o o p R E S O L U T I O N ,

I n h e r l a t e V o y a g e o n D I S C O V E R I E S t o w a r d s t h e S O U T H .



1772.	Altitude of the ☉'s L. L.	Magnetic Azimuth of the ☉'s Center.	PROB. ON	Variation West.	Latitude North.	Longitude West.	Observers, and Remarks.
June 26.	9 38	N. 85 31 E.	3 20 12 1/2				Observed by Captain Cook. Dungeness bearing W. 1/2 N. two or three leagues.
	11 21 1/2	N. 86 23 1/2 E.	3 19 22 1/2				
	13 9 1/2	N. 89 1 1/2 E.	2 19 47 1/2				
— 30.	1 53	N. 31 26 1/2 W.	2 23 14				Portland N. 1/2 E. about 15 miles. Mr. Gilbert.
	Amplit.	N. 27 45 W.	1 24 20				
	11 8 1/2	N. 89 26 1/2 E.	3 22 10 1/2				The Start N. W. by N. 1/2 W. distance about 6 or 7 leagues. Observed by Captain Cook.
	12 2 1/2	N. 90 35 E.	3 22 13				
July 1.	6 42	N. 36 40 W.	3 25 3 1/2				The Start N. W. 1/2 W. and Berry Head N. N. E.
	6 17 1/2	N. 36 33 1/2 W.	3 24 38				
— 21.	12 32	N. 49 56 W.	5 23 58		43 30	9 18	Mr. Gilbert.
	21 8 1/2	S. 77 49 E.	5 20 45		43 42	9 18	
— 22.	15 23 1/2	S. 81 16 1/2 E.	3		42 41 1/2	10 6	Mr. Gilbert.
	16 7	S. 80 26 1/2 E.	3		42 41 1/2	10 6	
— 23.	Azim.		22 45		41 44	10 42	Mr. Gilbert.
— 27.	Ditto.		20 23		33 27	15 37	Capt. Cook.
Aug. 3.	Ditto.		15 50		29 5	17 40	Mr. Gilbert.
— 4.	Ditto.		14 57		28 19	18 40	Observer unknown.
	Amplit.		16 0		28 19	18 40	Ditto.
— 6.	Azim.		13 11		24 41	19 20	Ditto.
— 7.	Ditto.		14 39		23 31	19 30	Ditto.
	Amplit.		14 40		23 31	19 30	Ditto.
— 9.	12 59 1/2	N. 65 50 W.	6 12 2		19 33	20 45	Ditto.
	5 20 1/2	N. 65 11 W.	6 10 44		15 45	23 18	
	Amplit.	N. 63 27 W.	1 10 59		15 44	23 20	Observer unknown.
— 18.	Azim.		9 6		11 11	21 22	
— 27.	6 6	N. 6 10 W.	1 13 28 1/2		4 2	11 36	
	16 47 1/2	S. 85 15 E.	7 13 33		3 49 1/2	10 40	
— 28.	10 39 1/2	N. 67 9 W.	5 18 59		3 38	10 6	
	9 20 1/2	N. 95 28 1/2 E.	8 14 13		3 18	9 23	
— 30.	15 22	N. 66 52 1/2 W.	2 14 57 1/2		2 34	7 3	
	18 22 1/2	S. 81 57 1/2 E.	7 15 52		2 12 1/2	5 41	
Sept. 3.	15 47 1/2	S. 82 46 E.	5 14 14 1/2		0 51	8 40	
— 4.	6 18 1/2	N. 68 0 W.	5 15 11 1/2		0 45	9 15	
	Amplit.	N. 68 30 W.	1 14 43		0 44	9 17	
— 7.	19 18 1/2	S. 81 37 E.	5 14 15		0 10 1/2	8 35	
— 10.	14 11 1/2	S. 82 43 1/2 E.	9 12 32		2 53	11 55	
— 11.	Azim.		11 44		8 18	12 21	
	Amplit.		11 40		8 18	12 21	Observer not known.
— 12.	Azim.		12 23		4 21	13 0	
	Ditto.		12 26		4 56 1/2	14 7	Ditto.
— 13.	Ditto.		9 53		5 24	14 32	Ditto.
— 16.	Ditto.		7 17		9 50	18 0	Ditto.
	Amplit.		7 53		9 50	18 0	
— 20.	Azim.		5 7		16 1	20 23	Ditto.
	Amplit.		4 3		16 3	20 24	
— 21.	12 20	N. 90 21 E.	5 3 49		18 26	21 15	

1772.	Altitude of the ☉ L. L.	Magnetic Azimuth of the ☉'s Center	Declination	Vari- ation West	Latitude South	Longitude West	Observer and Remark
Sept 21	Amplit						
23	12 59 $\frac{1}{2}$	N 82 24 $\frac{1}{2}$ W	6	3 43	19 2	21 46	Observer not known
25	6 38 $\frac{1}{2}$	S 89 56 E	4	2 8	24 6	23 32	{ By a compass of 6 repary & mil 11; which hung on friction wheels
26	9 59 $\frac{1}{2}$	S 90 35 $\frac{1}{2}$ E	7	2 19	24 6	23 32	
	10 25 $\frac{1}{2}$	S 95 1 W	5	2 1 $\frac{1}{2}$	24 25	23 51	By a Knight's compass
	9 7 $\frac{1}{2}$	S 94 17 W	5	1 53	24 25	23 51	Mr Pickersgill
	Amplit.	N 92 40 W	1	0 50	24 25	23 51	Mr Pickersgill
	16 23	S 94 32 E	5	0 39	24 40 $\frac{1}{2}$	23 51 $\frac{1}{2}$	
27	20 0 $\frac{1}{2}$	S 95 30 W	7	2 5	24 51 $\frac{1}{2}$	23 51	Mr Gilbert
	Amplit.	S 89 0 W	1	1 15	24 52	23 51	
	Ditto M		1	1 11	25 12	23 31	Ditto
28	8 50 $\frac{1}{2}$	S 88 50 E	5	2 36 $\frac{1}{2}$	26 46 $\frac{1}{2}$	20 36	
30	8 57 $\frac{1}{2}$	S 87 36 E	5	3 14 $\frac{1}{2}$	27 20	18 36	
Oct 1	5 38 $\frac{1}{2}$	N 87 0 W	3		27 28	17 59	
	6 56 $\frac{1}{2}$	S 84 1 $\frac{1}{2}$ E	9		27 31	17 34	
5	9 11 $\frac{1}{2}$	N 84 33 $\frac{1}{2}$ W	9	6 13	28 59 $\frac{1}{2}$	11 30	
10	15 0 $\frac{1}{2}$	N 79 39 $\frac{1}{2}$ W	7	8 30 $\frac{1}{2}$	34 30 $\frac{1}{2}$	8 8	
11	Azim		7	8 30	34 47 $\frac{1}{2}$	6 48	Observer not known
12	16 9 $\frac{1}{2}$	N 79 39 $\frac{1}{2}$ W	7	8 30 $\frac{1}{2}$	34 52 $\frac{1}{2}$	6 24	
17	15 54 $\frac{1}{2}$	N 76 30 $\frac{1}{2}$ W	7	14 9 $\frac{1}{2}$	35 0	4 40	Obs by the shadow of the thread By looking at the sun
19	22 45 $\frac{1}{2}$	N 71 49 W	5	15 9 $\frac{1}{2}$	34 24	7 40	
	16 56 $\frac{1}{2}$	N 75 37 W	5	15 23	34 57	7 55 $\frac{1}{2}$	
20	14 42 $\frac{1}{2}$	N 75 55 W	8	16 56 $\frac{1}{2}$	35 19	7 35	
	14 4 $\frac{1}{2}$	S 71 34 $\frac{1}{2}$ E	6	14 59	35 52	7 36	Observer not known
21	11 54	N 79 8 W	7	15 56	34 25 $\frac{1}{2}$	14 50	
26	Azim		10	57	33 40	15 10	Ditto.
	Ditto		21	26 $\frac{1}{2}$	33 41	15 38	
27	26 2 $\frac{1}{2}$	N 67 5 W	5	21 34	33 45 $\frac{1}{2}$	15 42	
28	18 5 $\frac{1}{2}$	N 73 14 $\frac{1}{2}$ W	7	21 30	40 19 $\frac{1}{2}$	16 27	Mr Gilbert
Nov 27	23 17 $\frac{1}{2}$	N 79 37 W	5	19 7	40 20	16 27	
	20 14 $\frac{1}{2}$	N 81 15 W	5	19 55	46 42 $\frac{1}{2}$	18 10	Mr Pickersgill
Dec 4	14 43 $\frac{1}{2}$	S 56 43 $\frac{1}{2}$ E	8	16 4 $\frac{1}{2}$	48 48	18 16	
	15 15 $\frac{1}{2}$	S 57 18 $\frac{1}{2}$ E	3	16 31 $\frac{1}{2}$	50 42	21 8	
6	19 55 $\frac{1}{2}$	N 83 57 $\frac{1}{2}$ W	7	17 51 $\frac{1}{2}$	55 8 $\frac{1}{2}$	23 44	
	15 51 $\frac{1}{2}$	N 87 39 $\frac{1}{2}$ W	7	18 38 $\frac{1}{2}$	55 8 $\frac{1}{2}$	24 17	
9	10 18 $\frac{1}{2}$	S 49 45 $\frac{1}{2}$ E	6	16 32	54 15	25 56	
	11 50 $\frac{1}{2}$	S 51 46 $\frac{1}{2}$ E	8	16 26	54 40 $\frac{1}{2}$	29 45	Mr Clerke
16	34 55 $\frac{1}{2}$	S 76 49 E	5	22 9 $\frac{1}{2}$	58 17	31 58	
17	5 2 $\frac{1}{2}$	S 76 23 W	10	21 9 $\frac{1}{2}$	58 32 $\frac{1}{2}$	26 24	
19	12 8 $\frac{1}{2}$	N 89 1 $\frac{1}{2}$ W	10	22 26 $\frac{1}{2}$	58 32 $\frac{1}{2}$	26 20	
21	16 1 $\frac{1}{2}$	N 86 1 $\frac{1}{2}$ W	8	21 47 $\frac{1}{2}$			
22	5 32 $\frac{1}{2}$	S 31 58 E	5	23 56			
26	17 58	N 86 42 W	5	19 37			
	13 9 $\frac{1}{2}$	S 86 4 W	5	19 14			

1773.	Altitude of the ☉ L. L.	Magnetic Azimuth of the ☉'s Center.	Z to ☉	Vari- ation West.	Latitude South.	Longitude East.	Observers, and Remarks.
h Jan. 2.	19 42	N. 89 18 W.	5 12	16 1/2	58 51	10 34	Mr. Gilbert.
	16 11	S. 84 45 W.	5 12	3	58 50 1/2	10 33	
	15 14 1/2	S. 84 42 W.	5 13	33	58 50 1/2	10 33	Mr. Clerke.
	13 14	S. 79 52 W.	5 11	55 1/2	58 50	10 32	Capt. Cook.
h — 7.	9 36	S. 32 41 1/2 E.	3 28	19	61 9	31 42	
	13 35 1/2	S. 39 8 1/2 E.	4 28	53	61 10	31 47	
h — 8.	10 10 1/2	S. 32 30 E.	6 29	42	61 30	34 40	
o — 10.	5 51 1/2	S. 29 19 1/2 E.	7 22	50 1/2	62 44	37 25	Mr. Pickersgill.
	13 53 1/2	S. 43 59 1/2 E.	9 25	30 1/2	62 47 1/2	37 27	Mr. Cooper.
h — 11.	8 8 1/2	S. 32 26 E.	5 23	47			Gregory's Compass.
	8 48 1/2	S. 34 33 E.	5 23	12	64 11 1/2	38 22	A Knight's ditto.
	9 55 1/2	S. 36 53 E.	7 23	33			Gregory's ditto.
	10 43 1/2	S. 37 30 E.	5 24	44			Another Knight's.
h — 14.	19 51	N. 69 30 W.	3 28	0			Gregory's Compass.
	19 11	N. 70 0 W.	5 28	10	63 53	39 20	A Knight's ditto.
	18 16	N. 72 22 W.	4 28	22			Another Knight's
h — 16.	20 5 1/2	N. 68 49 W.	5 27	9	64 55	39 10	Capt. Cook.
	18 10 1/2	N. 72 49 1/2 W.	6 27	12	64 55 1/2		
h — 21.	20 15 1/2	N. 62 31 1/2 W.	7 31	13			Mr. Gilbert.
	19 23 1/2	N. 64 4 W.	5 31	23	62 28 1/2	42 6	
	18 39	N. 64 27 W.	5 32	23			Mr. Clerke.
h — 22.	24 8	S. 60 19 1/2 E.	10 33	1 1/2	60 27	45 12	Capt. Cook.
o — 24.	8 48 1/2	N. 76 13 1/2 W.	3 35	30	57 50 1/2	49 52	Mr. Gilbert.
	4 39 1/2	N. 84 39 1/2 W.	5 34	14 1/2	57 48		Mr. Pickersgill.
h — 27.	17 2 1/2	N. 65 56 W.	10 31	24 1/2	56 6 1/2		Capt. Cook. Greg. Comp.
	14 57 1/2	N. 69 0 1/2 W.	11 31	22 1/2	56 6 1/2	51 35	Mr. Clerke. Ditto.
	10 4 1/2	N. 74 7 1/2 W.	4 33	31 1/2	56 6 1/2		Mr. Gilbert. A Knight's dit.
h — 28.	8 0	N. 76 0 W.	1 33	4	53 49	52 31	
o — 31.	Amplit.	N. 86 37 1/2 W.	1 30	49	50 13	57 30	
o Feb. 2	18 44 1/2	N. 65 55 1/2 W.	7 27	52 1/2			Capt. Cook.
	15 35 1/2	N. 69 33 1/2 W.	7 27	48			Ditto.
	14 35 1/2	N. 71 29 W.	5 27	2	49 7	60 24	Mr. Clerke.
	12 53 1/2	N. 72 57 1/2 W.	2 27	27 1/2			
	12 27 1/2	S. 46 39 1/2 E.	6 32	40	48 48	61 20	
	13 42	S. 48 24 1/2 E.	6 32	20			Mr. Pickersgill
h — 4.	14 10	N. 70 12 1/2 W.	9 27	54 1/2	49 27 1/2	59 25	
	5 13	N. 75 25 1/2 W.	7 33	8 1/2	49 27 1/2	59 22	
h — 5.	12 43 1/2	N. 68 37 1/2 W.	9 30	37 1/2	48 34	59 6	Capt. Cook.
	11 34	N. 69 16 1/2 W.	4 31	16 1/2			
h — 6.	3 8 1/2	N. 77 12 1/2 W.	11 32	24 1/2	48 8 1/2	60 25	Capt. Cook.
o — 7.	6 55 1/2	N. 73 51 1/2 W.	8 31	8	49 8 1/2	63 8	
h — 9.	18 18 1/2	S. 62 2 E.	9 27	33	49 50	65 10	Capt. Cook.
h — 12.	12 40 1/2	N. 62 53 1/2 W.	8 32	33	53 6 1/2	71 25	Mr. Gilbert.
	12 39 1/2	S. 50 17 1/2 E.	7 34	45 1/2			Mr. Cooper.
	13 32	S. 52 51 1/2 E.	7 33	10 1/2	53 32	72 57	Mr. Gilbert.
o — 14.	20 0 1/2	N. 46 33 1/2 W.	7 36	12	55 40 1/2	74 50	Capt. Cook.

1773	Altitude of the ☉ L L.	Magnetic Azimuth of the ☉ Center	Z or C	Variation West	Latitude South	Longitude East	Observers, and Remarks
Feb 15	18 27 $\frac{1}{2}$	N 45 0 W	6 39 11		57 4	80 9	
	12 19	N 56 49 $\frac{1}{2}$ W	8 36 53 $\frac{1}{2}$		57 6	80 12	Mr Gilbert
	11 28	N 56 4 $\frac{1}{2}$ W	6 38 22		57 6	80 12	Mr Pickersgill
— 17	4 39	S 33 50 E	41 45		57 54	83 6	Ditto
	33 14 $\frac{1}{2}$	S 87 23 E	11 39 35		57 54 $\frac{1}{2}$	83 40	Capt Cook
— 18	17 57 $\frac{1}{2}$	N 44 45 W	5 37 44		58 2 $\frac{1}{2}$	84 42	Mr Pickersgill
	16 59	N 45 20 W	6 38 45		58 2 $\frac{1}{2}$	84 42	
	14 32 $\frac{1}{2}$	N 48 6 W	5 39 58		58 2 $\frac{1}{2}$	84 42	
	4 57 $\frac{1}{2}$	N 62 26 $\frac{1}{2}$ W	37 8 $\frac{1}{2}$		58 5	84 48	Capt Cook
— 19	8 27 $\frac{1}{2}$	S 42 15 E	5 40 53		58 49	91 2	Mr Clarke
	10 24 $\frac{1}{2}$	S 43 32 E	5 42 49 $\frac{1}{2}$		58 49	91 2	
— 20	11 26 $\frac{1}{2}$	N 51 20 $\frac{1}{2}$ W	9 40 13		58 46 $\frac{1}{2}$	91 58	Capt Cook
	9 8 $\frac{1}{2}$	N 54 33 W	5 40 49		58 46	91 59	Mr Clarke
	13 42	S 57 18 $\frac{1}{2}$ E	6 35 17		58 55 $\frac{1}{2}$	92 45	Mr Pickersgill
	14 33 $\frac{1}{2}$	S 58 6 E	5 35 56 $\frac{1}{2}$		58 55 $\frac{1}{2}$	92 45	Mr Gilbert
— 21	21 9 $\frac{1}{2}$	S 65 57 $\frac{1}{2}$ E	4 40 58 $\frac{1}{2}$		59 19	93 55	
— 25	12 26 $\frac{1}{2}$	N 43 14 $\frac{1}{2}$ W	7 42 29 $\frac{1}{2}$		60 49 $\frac{1}{2}$	96 10	Capt Cook
	11 8	N 44 16 W	7 43 45		60 49 $\frac{1}{2}$	96 10	
	7 41 $\frac{1}{2}$	S 44 56 E	10 41 23		60 58	97 26	Mr Clarke
	8 46 $\frac{1}{2}$	S 47 36 E	6 40 31		60 58	97 26	Mr Burr
	9 35 $\frac{1}{2}$	S 48 19 E	5 41 17 $\frac{1}{2}$		60 58	97 26	Mr Gilbert
March 3	22 27	N 22 21 $\frac{1}{2}$ W	7 39 15 $\frac{1}{2}$		60 12 $\frac{1}{2}$	110 52	Ditto
— 6	15 11 $\frac{1}{2}$	N 41 47 $\frac{1}{2}$ W	7 32 11		59 56 $\frac{1}{2}$	119 7	
— 7	10 6 $\frac{1}{2}$	S 69 25 $\frac{1}{2}$ E	7 28 32		59 44	121 18	Mr Gilbert
	13 33 $\frac{1}{2}$	S 73 1 $\frac{1}{2}$ E	4 31 47		59 44	121 18	
— 8	11 17 $\frac{1}{2}$	N 53 25 W	8 26 12		59 44	121 20	Gregory's Compass
	9 54 $\frac{1}{2}$	N 53 40 W	5 28 25		59 44	121 20	Knight's ditto
— 10	10 29 $\frac{1}{2}$	S 88 26 $\frac{1}{2}$ E	8 11 39 $\frac{1}{2}$		57 52 $\frac{1}{2}$	130 2	Capt Cook
	12 16 $\frac{1}{2}$	S 89 37 $\frac{1}{2}$ E	4 13 38 $\frac{1}{2}$		57 52 $\frac{1}{2}$	130 2	Mr Pickersgill
	14 12 $\frac{1}{2}$	S 92 52 E	5 13 29		57 52 $\frac{1}{2}$	130 2	
— 11	10 45	N 86 32 $\frac{1}{2}$ E	7 8 24		58 55 $\frac{1}{2}$	131 38	Greg Comp Ship's head N
	14 16	N 83 36 $\frac{1}{2}$ E	3 11 46		58 55 $\frac{1}{2}$	131 38	Knight's ditto Ship's head S
	14 58 $\frac{1}{2}$	N 82 30 $\frac{1}{2}$ E	7 11 57 $\frac{1}{2}$		58 55 $\frac{1}{2}$	131 38	Gregory ditto Ship's head South
	17 40	N 71 40 E	2 6 18 $\frac{1}{2}$		58 55 $\frac{1}{2}$	131 38	Ditto Ship's head northerly
	19 26 $\frac{1}{2}$	N 70 50 E	3 9 4 $\frac{1}{2}$		58 55 $\frac{1}{2}$	131 38	Knight's ditto Ship's head South
— 13	13 59	N 63 50 W	3 7 37		58 44 $\frac{1}{2}$	133 50	Ship's head S S E
	13 19	N 62 6 $\frac{1}{2}$ W	3 10 35		58 44 $\frac{1}{2}$	133 50	Ship's head N E
— 15	27 42 $\frac{1}{2}$	N 36 38 $\frac{1}{2}$ E	4 0 55 $\frac{1}{2}$		58 52 $\frac{1}{2}$	142 24	Capt Cook
	28 18 $\frac{1}{2}$	N 36 0 E	6 2 29 $\frac{1}{2}$		58 52 $\frac{1}{2}$	142 24	
— 16	11 40 $\frac{1}{2}$	N 72 30 W	4 0 27		58 53	143 55	Capt Cook
— 18	14 34	N 82 46 $\frac{1}{2}$ W	9 14 12		56 7 $\frac{1}{2}$	156 10	Ditto
	10 7	S 91 0 W	3 13 4 $\frac{1}{2}$		56 5	156 10	Mr Gilbert
	9 34 $\frac{1}{2}$	S 85 53 $\frac{1}{2}$ W	4 17 19		56 3 $\frac{1}{2}$	156 10	Capt Cook
	8 17	S 86 50 W	1 14 21 $\frac{1}{2}$		56 3	156 10	Ditto
— 20	14 29 $\frac{1}{2}$	N 83 33 $\frac{1}{2}$ W	5 13 41		52 48	154 56	Mr Gilbert

1773.	Altitude of the ☉'s L. I.	Magnetic Azimuth of the ☉'s center.	No. of Obs.	Vari- ation Ref.	Latitude South.	Longitude Ref.	Observers and Remarks.
March 20.	13 24.10	N. 84 14 W.	5	12 43	52 47.1	154 56	Mr. Pickersgill. Mr. Gilbert. Ditto.
— 22.	16 58.1	N. 81 31 W.	3	13 32	52 47		
— 23.	14 19.6	N. 85 45.1 W.	3	14 37	49 28.1	159 38	
— 24.	12 35.1	N. 87 56.1 W.	4	14 31			
— 25.	11 10.1	N. 88 29 W.	5	13 14			
— 26.	15 10.1	N. 83 31 W.	3	12 19.1	47 29	161 54	Mr. Clerke. Mr. Gilbert.
— 27.	12 49	N. 87 32.1 W.	6	13 54	47 28		
— 28.	18 53.1	N. 78 18.1 W.	4	12 7	46 29.1	163 55	Mr. Gilbert.
— 29.	17 58.1	N. 78 48 W.	5	11 26	46 23.1		
June 14.	12 21.1	N. 22 36.1 E.	3	11 43	46 41.1	185 50	Ship's head East. Ditto, South.
— 15.	8 45.1	N. 52 27.1 W.	7	11 16	46 52.1	186 4	
— 22.	9 44.1	N. 51 25 W.	6	9 31	44 37.1	196 30	
— 23.	8 34.1	N. 55 35 W.	7	11 21	44 37.1	197 53	
— 28.	4 71	N. 45 50 E.	1		42 37.1	198 39	
— 29.	12 51.1	N. 32 18.1 E.	3	7 54.1	42 39.1	198 42.1	
— 30.	3 46.1	N. 45 19 E.	5	7 40	49 5	199 40	
— 31.	11 14	N. 33 41 E.	5	8 45	43 5.1	199 45	
July 1.	11 51.1	N. 48 25 W.	5	6 55	43 7.1	201 58.1	
— 2.	6 25	N. 40 44.1 E.	6	6 59.1	43 2.1	203 8	
— 3.	7 57	N. 55 45 W.	6	5 59	43 2.1	203 20	
— 4.	10 33.1	N. 36 28 E.	5	7 10.1	43 14	204 23	
— 5.	8 27.1	N. 54 58 W.	5	8 13	43 22.1	204 58	
— 6.	8 47.1	N. 44 27.1 E.	9	2 47.1	43 27.1	215 20	
— 7.	15 41.1	N. 31 43.1 E.	7	4 5	43 33.1	217 50	
— 8.	11 41.1	N. 48 44 W.	5	5 35.1	43 32.1	218 30	
— 9.	12 41	N. 36 30.1 E.	7	5 35	43 17.1	219 26	
— 10.	8 14	N. 53 59.1 W.	6	5 4	43 14.1	219 57	
— 11.	8 4	N. 48 40 E.	7	6 16	38 4.1	226 32	
— 12.	11 17.1	N. 56 43.1 W.	7	5 5	37 49	226 46	
— 13.	9 36.1	N. 65 22.1 W.	7	5 33.1	36 25.1	227 5	
— 14.	14 53.1	N. 43 54 E.	5	6 5.1	35 35	226 57	
— 15.	15 23.1	N. 48 56.1 E.	3	4 51.1	31 18.1	225 40	
— 16.	12 55.1	N. 61 50 W.	6	5 21.1	30 47.1	225 31	
— 17.	8 40.1	N. 55 11.1 W.	7	5 34	29 34	225 6	
— 18.	10 17.1	N. 66 20 W.	5	5 24.1	28 43	224 41	
— 19.	10 43.1	N. 56 7 E.	5	4 59.1	28 1	224 55	
— 20.	11 12.1	N. 55 0 E.	4	6 18.1	27 43	224 41	
— 21.	11 15.1	N. 59 22 E.	7	5 16.1	23 25	226 3	
— 22.	8 43.1	N. 62 18 E.	5	4 26	22 22	226 15	Mr. Gilbert.
— 23.	12 7.1	N. 70 12 W.	5	5 1.1	22 0	226 10	
— 24.	13 46.1	N. 70 6 W.	5	5 10	21 12	226 30	
— 25.	13 53.1	N. 62 5.1 E.	3	6 30	17 17.1	218 15	
— 26.	16 6.1	N. 61 35.1 E.	7	6 45	17 16.1	215 24	
— 27.	10 57	N. 63 41 E.	5	7 24	17 42.1	211 50	
— 28.	9 17.1	N. 69 27 E.	5	5 54.1	17 29	210 40	

1773	Altitude of the ☉ & L L	Magnetic Azimuth of the ☉ & center	Z or 90°	Vari- ation P st	Latitude South	Longitude East	Observers and Remarks
Sept 5	8 38 $\frac{1}{2}$	N 85 2	W	5 4 51 $\frac{1}{2}$	16 44 $\frac{1}{2}$	208 52 $\frac{1}{2}$	Knight's compass
h — 18	6 33 $\frac{1}{2}$	N 85 40	W	3 4 50	16 44 $\frac{1}{2}$	208 52 $\frac{1}{2}$	Gregory's ditto
O — 19	7 54 $\frac{1}{2}$	N 77 30	E	5 8 26 $\frac{1}{2}$	17 34	206 10	Mr Gilbert.
h — 21	14 4	S 87 36	W	5 8 36 $\frac{1}{2}$	17 47	205 20	Ditto.
h — 21	12 11 $\frac{1}{2}$	S 87 15	W	5 8 18	18 28 $\frac{1}{2}$	203 47	Mr Gilbert
h — 21	19 16 $\frac{1}{2}$	S 88 12	W	5 9 18	18 29 $\frac{1}{2}$	203 15	Mr Gilbert.
h — 21	8 34 $\frac{1}{2}$	S 84 33	W	5 9 6 $\frac{1}{2}$	18 36 $\frac{1}{2}$	194 36	Mr Gilbert.
h — 21	15 17 $\frac{1}{2}$	N 75 39	E	5 8 34 $\frac{1}{2}$	20 36	192 5	Mr Gilbert.
O — 26	17 5	N 75 36	E	5 7 58	20 58 $\frac{1}{2}$	189 38	Mr Gilbert.
h — 27	12 14	N 75 17	E	5 11 42	21 26 $\frac{1}{2}$		
h — 27	17 45 $\frac{1}{2}$	N 74 23	E	5 9 44			
h — 29	4 6 $\frac{1}{2}$	S 78 11	W	5 10 42 $\frac{1}{2}$			
	Time by Watch K						
	H						
O Oct 3	7 5 16 $\frac{1}{2}$	N 76 32 $\frac{1}{2}$	E	7 10 28	21 4 $\frac{1}{2}$	185 3 $\frac{1}{2}$	
	Alt. O L L						
h — 7	14 27 $\frac{1}{2}$	S 78 50	W	5 10 44	21 10	185 2	
h — 8	19 35 $\frac{1}{2}$	N 76 47 $\frac{1}{2}$	E	7 11 35	21 56	184 45	
h — 13	13 47 $\frac{1}{2}$	S 79 27	W	5 9 50 $\frac{1}{2}$	22 6 $\frac{1}{2}$	184 40	
h — 13	16 20 $\frac{1}{2}$	N 78 56 $\frac{1}{2}$	E	8 10 39	28 27	180 13	Mr Pickersgill.
h — 14	17 29 $\frac{1}{2}$	N 79 7	E	5 10 39	29 47	179 56	Mr Gilbert
h — 15	10 24 $\frac{1}{2}$	N 82 31	E	5 11 34 $\frac{1}{2}$	30 36	179 57	
h — 15	12 39 $\frac{1}{2}$	S 76 33 $\frac{1}{2}$	W	7 10 52	31 16 $\frac{1}{2}$	179 56	Mr Clerke.
h — 15	11 27 $\frac{1}{2}$	N 82 56 $\frac{1}{2}$	E	6 10 26 $\frac{1}{2}$	32 0 $\frac{1}{2}$	179 55	Mr Clerke.
h — 16	12 36 $\frac{1}{2}$	N 81 12	E	5 11 28	32 52 $\frac{1}{2}$	179 56	Mr Gilbert.
h — 16	17 4 $\frac{1}{2}$	S 79 18 $\frac{1}{2}$	W	6 10 43 $\frac{1}{2}$	33 24	180 12	
h — 17	15 29 $\frac{1}{2}$	S 77 13	W	5 11 48 $\frac{1}{2}$	38 54 $\frac{1}{2}$	179 12	Mr Gilbert.
O — 17	6 30 $\frac{1}{2}$	S 71 31 $\frac{1}{2}$	W	6 10 33	44 3	176 5	Capt Cook.
h — 20	12 51 $\frac{1}{2}$	N 82 0	E	6 11 0	50 4 $\frac{1}{2}$	179 59	Ditto
h — 20	14 14 $\frac{1}{2}$	N 76 59 $\frac{1}{2}$	E	6 15 12	50 18 $\frac{1}{2}$	180 43	Mr Pickersgill
h — 27	13 34 $\frac{1}{2}$	S 59 37 $\frac{1}{2}$	W	5 13 57 $\frac{1}{2}$	53 45	187 45	Mr Gilbert
h — 28	11 32	S 59 48	W	5 11 51	53 10 $\frac{1}{2}$	190 55	Mr Pickersgill.
O — 28	15 15 $\frac{1}{2}$	S 61 0	W	5 13 56	64 26	209 13	Log Book
h — Dec 4	11 39 $\frac{1}{2}$	S 86 58	E	5 17 51 $\frac{1}{2}$	64 53 $\frac{1}{2}$	213 45	Gregory's compass.
O — 5	21 47 $\frac{1}{2}$	S 62 35	W	6 18 16 $\frac{1}{2}$	67 4	223 20	Knight's ditto
h — 7	23 20 $\frac{1}{2}$	S 66 36	W	5 19 27			
h — 11	22 0	S 67 12 $\frac{1}{2}$	W	6 15 19			
h — 11	28 2 $\frac{1}{2}$	S 78 0 $\frac{1}{2}$	W	10 15 4 $\frac{1}{2}$			
O — 12	12 34 $\frac{1}{2}$	S 46 39	W	5 16 49 $\frac{1}{2}$			
h — 18	12 1 $\frac{1}{2}$	S 44 49 $\frac{1}{2}$	W	6 17 30			
O — 19	23 54 $\frac{1}{2}$	S 73 38 $\frac{1}{2}$	W	10 12 8			
h — 24	24 37 $\frac{1}{2}$	S 69 21	W	10 18 46			
h — 24	23 10 $\frac{1}{2}$	S 69 13	W	10 16 32			

Uncertain because
of ship's motion.

1773.	Altitude of the ☉ L. L.	Magnetic Azimuth of the ☉ center.	N. o. of Ob.	Vari- ation East.	Latitude South.	Longitude East.	Observers and Remarks.
Dec. 26.	22 41 $\frac{1}{2}$	S. 67 53 $\frac{1}{2}$ W.	6	15 40	66 5	226 30	Gregory's compass.
	22 7 $\frac{1}{2}$	S. 66 15 $\frac{1}{2}$ W.	6	15 40	66 5	226 30	Knight's ditto.
29.	21 23 $\frac{1}{2}$	S. 66 17 W.	10	14 29	62 8	225 38	Ditto.
30.	19 45 $\frac{1}{2}$	S. 64 16 $\frac{1}{2}$ W.	10	13 43 $\frac{1}{2}$	61 7	225 22	Ditto: cloudy.
31.	19 27 $\frac{1}{2}$	S. 71 23 $\frac{1}{2}$ W.	10		59 38		Ship's head E. } Knight's
	8 33 $\frac{1}{2}$	S. 46 19 $\frac{1}{2}$ W.	10	12 2 $\frac{1}{2}$	59 36 $\frac{1}{2}$	225 14	Ditto, N. W. } compass.
1774.							
Jan. 1.	15 41 $\frac{1}{2}$	S. 57 30 $\frac{1}{2}$ W.	10	14 4	58 47	224 3	Ship's head, N. W. K's comp.
	15 21 $\frac{1}{2}$	S. 84 26 E.	10	13 27	58 4	223 22	Knight's compass.
6.	18 14 $\frac{1}{2}$	S. 69 35 W.	4	7 7 $\frac{1}{2}$	51 40	225 6	Cloudy, and much motion.
7.	13 28 $\frac{1}{2}$	S. 64 39 $\frac{1}{2}$ W.	8	6 32	50 17	227 20	
	12 59 $\frac{1}{2}$	S. 77 18 E.	5	6 26	49 37	229 50	Mr. Clerke.
11.	13 41 $\frac{1}{2}$	S. 69 54 $\frac{1}{2}$ W.	9	2 41	48 21 $\frac{1}{2}$	238 30	} Knight's compass.
	28 36 $\frac{1}{2}$	S. 91 0 E.	10	1 35	49 11 $\frac{1}{2}$	239 53	
12.	15 12 $\frac{1}{2}$	S. 69 48 $\frac{1}{2}$ W.	8	4 37 $\frac{1}{2}$	50 7	240 35	Gregory's ditto.
	13 5 $\frac{1}{2}$	S. 67 3 $\frac{1}{2}$ W.	6	4 54 $\frac{1}{2}$			Knight's ditto.
16.	12 13 $\frac{1}{2}$	S. 61 2 $\frac{1}{2}$ W.	6	9 23 $\frac{1}{2}$	56 57	240 47	Gregory's ditto.
	10 53 $\frac{1}{2}$	S. 59 30 W.	8	8 49			Knight's ditto.
19.	18 38 $\frac{1}{2}$	S. 92 32 $\frac{1}{2}$ E.	6	10 26 $\frac{1}{2}$	62 28	244 0	Gregory's ditto.
22.	23 16 $\frac{1}{2}$	S. 82 1 $\frac{1}{2}$ W.	10	9 48	62 4 $\frac{1}{2}$	248 1	
24.	34 40 $\frac{1}{2}$	N. 40 31 $\frac{1}{2}$ E.	8	15 48 $\frac{1}{2}$	65 15 $\frac{1}{2}$	250 55	Ship's head, S. S. E. }
	35 33 $\frac{1}{2}$	N. 28 5 $\frac{1}{2}$ E.	8	25 27 $\frac{1}{2}$	65 16		Ditto, S. W. by W. }
	36 26 $\frac{1}{2}$	N. 31 0 E.	4	19 38	65 16		Ditto, S. S. E. }
25.	14 12 $\frac{1}{2}$	S. 56 7 $\frac{1}{2}$ W.	6	19 26 $\frac{1}{2}$	65 45	250 45	Capt. Cook.
	21 33 $\frac{1}{2}$	N. 69 11 $\frac{1}{2}$ E.	8	18 22	66 19	250 40	Ditto.
28.	9 44 $\frac{1}{2}$	S. 87 23 $\frac{1}{2}$ E.	7	23 11	69 30 $\frac{1}{2}$	251 57	Mr. Clerke.
	27 11 $\frac{1}{2}$	S. 44 37 $\frac{1}{2}$ E.	9	22 11 $\frac{1}{2}$	69 43	252 16	Capt. Cook.
29.	19 42 $\frac{1}{2}$	S. 67 21 $\frac{1}{2}$ W.	8	24 46	70 20	253 3	Mr. Clerke.
	19 13 $\frac{1}{2}$	S. 66 12 W.	5	24 32			Ditto.
31.	22 10 $\frac{1}{2}$	N. 51 57 E.	5	28 32	68 13	255 15	Gregory's compass.
Feb. 3.	19 33 $\frac{1}{2}$	S. 70 38 $\frac{1}{2}$ W.	10	23 1 $\frac{1}{2}$	66 16 $\frac{1}{2}$	258 45	Knight's ditto.
	17 18 $\frac{1}{2}$	S. 64 45 $\frac{1}{2}$ W.	10	23 34			Mr. Clerke.
	21 59 $\frac{1}{2}$	N. 57 10 $\frac{1}{2}$ E.	6	23 25 $\frac{1}{2}$	65 47 $\frac{1}{2}$	260 24	Capt. Cook.
	24 22 $\frac{1}{2}$	N. 50 9 E.	5	24 47 $\frac{1}{2}$	65 47 $\frac{1}{2}$		Ditto.
4.	19 58 $\frac{1}{2}$	S. 67 31 W.	5	27 7 $\frac{1}{2}$	65 34	260 14	
5.	15 32 $\frac{1}{2}$	S. 66 51 $\frac{1}{2}$ W.	6	18 49 $\frac{1}{2}$	63 57 $\frac{1}{2}$	260 8	Mr. Pickersgill.
	14 41 $\frac{1}{2}$	S. 64 35 W.	5	19 22 $\frac{1}{2}$	63 57 $\frac{1}{2}$		Mr. Clerke.
10.	18 53 $\frac{1}{2}$	S. 75 45 W.	5	15 32	53 7	262 50	
	18 10	S. 75 13 W.	5	15 5			
12.	5 2 $\frac{1}{2}$	S. 60 43 $\frac{1}{2}$ W.	6	13 55 $\frac{1}{2}$	50 11	264 35	
13.	16 34 $\frac{1}{2}$	S. 74 23 $\frac{1}{2}$ W.	10	14 40	50 30 $\frac{1}{2}$	263 36	
14.	15 40 $\frac{1}{2}$	S. 75 46 $\frac{1}{2}$ W.	8	12 31 $\frac{1}{2}$	49 28	264 4	Mr. Pickersgill.
	14 6 $\frac{1}{2}$	S. 73 31 $\frac{1}{2}$ W.	7	12 58			Great motion.
18.	14 30 $\frac{1}{2}$	S. 74 28 $\frac{1}{2}$ W.	6	13 16 $\frac{1}{2}$	43 40 $\frac{1}{2}$	265 45	Gregory's compass.
19.	14 14 $\frac{1}{2}$	S. 77 32 $\frac{1}{2}$ W.	9	10 5 $\frac{1}{2}$	41 41	265 3	Knight's ditto.
20.	14 33 $\frac{1}{2}$	S. 80 28 $\frac{1}{2}$ W.	10	7 21 $\frac{1}{2}$	39 32	266 0	

1774.	Altitude of the ☉ I I	Magnetic Azimuth of the ☉ & Center δ	2 3 4 5	Vari- ation East	Latitude South	Longitude East	Observers, and Remarks
○ Feb 20	13 23 $\frac{1}{2}$	N 8 $\frac{1}{2}$ 4 $\frac{1}{2}$ E	11	8 3	38 22	266 18	Gregory's Compass
○ — 21	12 41 $\frac{1}{2}$	N 78 2 $\frac{1}{2}$ E	6	7 41	36 24	265 54	Ditto
☿ — 23	15 15 $\frac{1}{2}$	S 79 13 $\frac{1}{2}$ W	6	9 51 $\frac{1}{2}$	36 49	263 9	Ditto
☿ — 23	16 54 $\frac{1}{2}$	N 80 32 E	10	8 8	37 16	262 5	Knight's Compass
☿ — 25	13 18	S 81 5 $\frac{1}{2}$ W	10	6 50	37 44	259 21	Ditto
○ — 27	11 24 $\frac{1}{2}$	S 83 33 W	10	4 9	34 31 $\frac{1}{2}$	257 57	Gregory's Compass
☿ — 28	20 3 $\frac{1}{2}$	N 83 8 $\frac{1}{2}$ E	9	3 15	32 27 $\frac{1}{2}$	257 25	
☿ March 1	12 12 $\frac{1}{2}$	S 84 18 $\frac{1}{2}$ W	10	4 23	32 6	257 30	Gregory's Compass
☿ — 1	16 5 $\frac{1}{2}$	N 83 21 $\frac{1}{2}$ E	8	5 4	31 25	257 42	Knight's ditto
☿ — 2	14 36 $\frac{1}{2}$	S 85 19 W	10	5 2 $\frac{1}{2}$	31 5	257 52	Ditto
☿ — 3	9 23 $\frac{1}{2}$	S 83 8 $\frac{1}{2}$ W	8	4 26 $\frac{1}{2}$	30 25 $\frac{1}{2}$	258 45	Gregory's Compass
☿ — 3	12 46	N 84 56 $\frac{1}{2}$ E	10	5 13	30 8	259 3	Knight's ditto
☿ — 4	12 19 $\frac{1}{2}$	S 83 58 $\frac{1}{2}$ W	6	5 40	29 51 $\frac{1}{2}$	259 16	Ditto
☿ — 4	12 26 $\frac{1}{2}$	N 83 11 $\frac{1}{2}$ E	9	6 53	29 46	259 27	Ditto
☿ — 5	11 49 $\frac{1}{2}$	S 84 19 $\frac{1}{2}$ W	8	5 26 $\frac{1}{2}$	29 42	259 24	Gregory's Compass
○ — 6	9 44	S 84 36 W	10	4 11	29 11	258 48	Knight's ditto
☿ — 7	12 15 $\frac{1}{2}$	N 84 51 $\frac{1}{2}$ E	10	4 31	28 2	256 26	
☿ — 16	10 46 $\frac{1}{2}$	S 89 6 $\frac{1}{2}$ W	13	4 30 $\frac{1}{2}$	27 7	250 7	Off Easter Island
☿ — 16	15 30 $\frac{1}{2}$	N 80 4 $\frac{1}{2}$ E	8	3 32 $\frac{1}{2}$	26 56	249 50	
☿ — 17	8 25 $\frac{1}{2}$	N 83 46 E	10	3 15	26 16 $\frac{1}{2}$	248 50	
☿ — 18	4 40 $\frac{1}{2}$	S 88 39 $\frac{1}{2}$ W	7	2 47	25 54	248 35	
☿ — 18	11 50 $\frac{1}{2}$	N 81 21 $\frac{1}{2}$ E	8	3 41	25 36	248 20	
☿ — 19	9 57 $\frac{1}{2}$	S 90 31 $\frac{1}{2}$ W	6	3 29	24 32 $\frac{1}{2}$	248 7	
☿ — 19	14 36 $\frac{1}{2}$	N 80 44 $\frac{1}{2}$ E	6	3 5 $\frac{1}{2}$	23 26 $\frac{1}{2}$	247 40	
☿ — 24	14 55 $\frac{1}{2}$	N 85 39 $\frac{1}{2}$ W	6	1 52	16 54 $\frac{1}{2}$	243 10	
☿ — 25	9 52 $\frac{1}{2}$	N 81 28 $\frac{1}{2}$ E	10	2 31 $\frac{1}{2}$	15 6	241 0	
☿ — 26	9 33 $\frac{1}{2}$	N 87 50 $\frac{1}{2}$ W	9	2 38	14 26 $\frac{1}{2}$	240 18	
☿ — 26	17 37	N 80 35 $\frac{1}{2}$ E	10	2 23 $\frac{1}{2}$	13 31	239 20	
○ — 27	9 30 $\frac{1}{2}$	N 87 10 W	5	2 10	12 55	238 45	
☿ — 27	10 52 $\frac{1}{2}$	N 82 29 $\frac{1}{2}$ E	8	2 13	12 31	237 45	
☿ — 28	9 36 $\frac{1}{2}$	N 87 28 $\frac{1}{2}$ W	8	2 31	11 30	237 10	
☿ — 28	11 36 $\frac{1}{2}$	N 82 10 E	10	2 17	10 39 $\frac{1}{2}$	236 20	
☿ — 29	10 35 $\frac{1}{2}$	N 87 38 $\frac{1}{2}$ W	10	3 3	10 10	235 40	
☿ — 29	16 54 $\frac{1}{2}$	N 80 30 E	6	2 43 $\frac{1}{2}$	9 34 $\frac{1}{2}$	233 20	
☿ — 30	9 28 $\frac{1}{2}$	N 81 6 E	10	3 14	9 18 $\frac{1}{2}$	232 8	
☿ — 31	9 8 $\frac{1}{2}$	N 79 55 E	10	4 3	9 27	230 14	
☿ April 1	9 58 $\frac{1}{2}$	N 79 29 $\frac{1}{2}$ E	10	3 56	9 28 $\frac{1}{2}$	228 26	
☿ — 2	9 31 $\frac{1}{2}$	N 78 5 $\frac{1}{2}$ E	10	3 58 $\frac{1}{2}$	9 32 $\frac{1}{2}$	226 44	
○ — 3	12 22 $\frac{1}{2}$	N 77 52 E	10	4 15	9 32 $\frac{1}{2}$	224 58	
☿ — 4	14 29 $\frac{1}{2}$	N 76 50 E	7	4 27	9 33 $\frac{1}{2}$	223 20	Cloudy
☿ — 5	9 33 $\frac{1}{2}$	N 77 42 $\frac{1}{2}$ E	10	4 13 $\frac{1}{2}$	9 21	222 2	
☿ — 6	8 56 $\frac{1}{2}$	N 76 4 E	10	5 33 $\frac{1}{2}$	9 36 $\frac{1}{2}$	221 10	
☿ — 9	12 14 $\frac{1}{2}$	N 81 23 $\frac{1}{2}$ W	6	1 28	9 55 $\frac{1}{2}$	220 51 $\frac{1}{2}$	At anchor in Resolution Bay, in the island Ohitahoo, one of the Marquesas I can assign no reason for the small ness of the preceding variation, if it was not occasioned by drawing the binacle a little towards the larboard side of the ship, to have the sun clear of some plantains which were hung up aft

1774.	Altitude of the ☉, L. L.	Magnetic Azimuth of the ☉'s Center.	No. of Obs.	Vari- ation Balt.	Latitude South.	Longitude East.	Observer, and Remarks.
♂ April 12.	15 23 $\frac{1}{2}$	N. 82 26 $\frac{1}{2}$ W.	8	4 22 $\frac{1}{2}$	9 50	220 48	
	11 50 $\frac{1}{2}$	N. 72 59 $\frac{1}{2}$ E.	10	5 28 $\frac{1}{2}$	10 30	220 8	
♀ — 13.	6 46 $\frac{1}{2}$	N. 74 0 $\frac{1}{2}$ E.	8	5 1 $\frac{1}{2}$	11 52	219 10	
♂ — 14.	9 13	N. 84 3 $\frac{1}{2}$ W.	10	6 3 $\frac{1}{2}$	12 42	218 37	
	12 24 $\frac{1}{2}$	N. 70 56 $\frac{1}{2}$ E.	6	5 51 $\frac{1}{2}$	13 20	217 48	
♀ — 15.	13 50	N. 69 31 $\frac{1}{2}$ E.	10	6 9	14 17 $\frac{1}{2}$	216 36	
♂ — 16.	15 30 $\frac{1}{2}$	N. 68 44 $\frac{1}{2}$ E.	10	5 55	14 29	215 22	
⊙ — 17.	10 3 $\frac{1}{2}$	N. 70 58 $\frac{1}{2}$ E.	10	5 5	14 34 $\frac{1}{2}$	214 45	
♂ — 18.	5 30 $\frac{1}{2}$	N. 69 22 $\frac{1}{2}$ E.	6	7 33 $\frac{1}{2}$	15 33	213 43	
♀ — 20.	8 41 $\frac{1}{2}$	N. 67 54 $\frac{1}{2}$ E.	10	6 51 $\frac{1}{2}$	17 12 $\frac{1}{2}$	211 18	
♂ May 21.	7 25 $\frac{1}{2}$	N. 71 58 $\frac{1}{2}$ W.	6	5 44 $\frac{1}{2}$	16 42 $\frac{1}{2}$	208 50 $\frac{1}{2}$	In Owharri harbour, Hua- heine. The two first were taken on board the ship, the two latter on shore. I used the same compass, but two different cards.
	6 0 $\frac{1}{2}$	N. 71 39 $\frac{1}{2}$ W.	6	4 53	16 41 $\frac{1}{2}$	208 50 $\frac{1}{2}$	
⊙ — 22.	9 54 $\frac{1}{2}$	N. 70 29 $\frac{1}{2}$ W.	6	5 28 $\frac{1}{2}$	16 42 $\frac{1}{2}$	208 50 $\frac{1}{2}$	
	7 35 $\frac{1}{2}$	N. 71 14 $\frac{1}{2}$ W.	6	5 16 $\frac{1}{2}$	16 42 $\frac{1}{2}$	208 50 $\frac{1}{2}$	
⊙ — 29.	11 53 $\frac{1}{2}$	N. 68 55 $\frac{1}{2}$ W.	6	6 9 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 23 $\frac{1}{2}$	Taken on board the ship in Ohamaneno harbour, Uli- tea. I used the same com- pass-box in every one, but two different cards.
	10 18 $\frac{1}{2}$	N. 69 11 $\frac{1}{2}$ W.	6	5 43 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 23 $\frac{1}{2}$	
♂ — 30.	5 53 $\frac{1}{2}$	N. 71 24 $\frac{1}{2}$ W.	6	6 17 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 23 $\frac{1}{2}$	
	4 59 $\frac{1}{2}$	N. 71 59 $\frac{1}{2}$ W.	6	6 31 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 23 $\frac{1}{2}$	
♂ — 31.	9 55 $\frac{1}{2}$	N. 69 21 $\frac{1}{2}$ W.	6	6 2 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 23 $\frac{1}{2}$	
	8 31 $\frac{1}{2}$	N. 69 34 $\frac{1}{2}$ W.	6	5 40 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 23 $\frac{1}{2}$	
♂ June 1	15 25 $\frac{1}{2}$	N. 67 6 $\frac{1}{2}$ W.	6	6 30 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 23 $\frac{1}{2}$	On shore in Ohamaneno har- bour. Cloudy, and uncertain.
	13 13 $\frac{1}{2}$	N. 67 58 $\frac{1}{2}$ W.	6	6 17 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 23 $\frac{1}{2}$	
⊙ — 5.	17 46 $\frac{1}{2}$	N. 52 53 E.	10	6 0	16 49 $\frac{1}{2}$	206 30	
♀ — 8.	7 13 $\frac{1}{2}$	N. 71 6 $\frac{1}{2}$ W.	9	7 55 $\frac{1}{2}$	17 33	204 4	
	8 55	N. 64 5 $\frac{1}{2}$ E.	8	8 16	17 37 $\frac{1}{2}$	203 48	
♂ — 9.	9 12 $\frac{1}{2}$	N. 70 14 W.	10	8 3 $\frac{1}{2}$	17 40	203 22	
♀ — 10.	7 12 $\frac{1}{2}$	N. 71 38 $\frac{1}{2}$ W.	10	8 43	17 48 $\frac{1}{2}$	202 50	
	11 8	N. 52 15 E.	8	8 49	17 51	202 35	
♂ — 13.	6 43	N. 53 21 $\frac{1}{2}$ E.	10	9 15 $\frac{1}{2}$	18 40 $\frac{1}{2}$	197 37	
♂ — 14.	6 35 $\frac{1}{2}$	N. 71 10 W.	10	8 29 $\frac{1}{2}$	18 34 $\frac{1}{2}$	197 23	
	5 51 $\frac{1}{2}$	N. 54 40 E.	10	8 19	18 32	197 24	
♀ — 15.	7 57 $\frac{1}{2}$	N. 71 27 $\frac{1}{2}$ W.	5	9 24	18 25	197 10	
	7 43 $\frac{1}{2}$	N. 52 54 E.	10	9 16 $\frac{1}{2}$	18 21	196 54	
♂ — 16.	8 31 $\frac{1}{2}$	N. 51 51 $\frac{1}{2}$ E.	10	10 1	18 0 $\frac{1}{2}$	196 0	
♀ — 17.	7 44 $\frac{1}{2}$	N. 51 42 $\frac{1}{2}$ E.	10	10 23	18 16	194 31	
♂ — 18.	8 25 $\frac{1}{2}$	N. 51 17 $\frac{1}{2}$ E.	10	10 26 $\frac{1}{2}$	18 22 $\frac{1}{2}$	193 4	
♀ — 20.	12 28	N. 49 51 E.	10	9 38	18 54 $\frac{1}{2}$	190 40	
♂ — 21.	4 12	N. 74 56 $\frac{1}{2}$ W.	10	11 25	19 3 $\frac{1}{2}$	190 20	
	1 $\frac{1}{2}$ 11 $\frac{1}{2}$	N. 49 9 $\frac{1}{2}$ E.	10	10 48 $\frac{1}{2}$	19 20	189 56	
♀ — 22.	14 0 $\frac{1}{2}$	N. 69 30 W.	5	11 8 $\frac{1}{2}$	19 27 $\frac{1}{2}$	189 36	
	8 22 $\frac{1}{2}$	N. 50 17 $\frac{1}{2}$ E.	9	10 59	19 43	188 39	
♂ — 23.	8 19 $\frac{1}{2}$	N. 49 24 E.	10	11 40 $\frac{1}{2}$	20 24 $\frac{1}{2}$	186 52	Ship's head W. S. W.
♀ — 24.	13 49 $\frac{1}{2}$	N. 48 43 $\frac{1}{2}$ E.	8	9 21 $\frac{1}{2}$	20 12	186 10	Dirto E. S. E.
♂ — 25.	11 31 $\frac{1}{2}$	N. 47 16 $\frac{1}{2}$ E.	8	12 6 $\frac{1}{2}$	20 26 $\frac{1}{2}$	185 42	Dirto W. S. W.

1774	Altitude of the ☉ L. L.	Magnetic Azimuth of the ☉ & Center	☉ 2, 3, 4, 5 E, W, N, S	Vari- ation East	Latitude South	Longitude East	Observers, and Remarks
June 26	5 57 $\frac{1}{2}$	N 51 17 E	10 11 5 $\frac{1}{2}$	20 15	185 29 $\frac{1}{2}$	Ship's head E S E	At anchor off Anson Island, east of the Friendly Isles.
June 27	6 8 $\frac{1}{2}$	N 71 24 $\frac{1}{2}$ W	6 9 7 $\frac{1}{2}$	20 15	185 29 $\frac{1}{2}$	Ditto N E	
	Amplit	N 74 2 $\frac{1}{2}$ W	1 9 18 $\frac{1}{2}$	20 15	185 29 $\frac{1}{2}$	Ditto N E	
	Amplit	N 55 20 E	1 9 41 $\frac{1}{2}$	20 15	185 29 $\frac{1}{2}$	Ditto E N E	
	11 17 $\frac{1}{2}$	N 50 11 $\frac{1}{2}$ E	10 9 29 $\frac{1}{2}$	20 15	185 29 $\frac{1}{2}$	Ditto E N E	
June 28	7 38 $\frac{1}{2}$	N 71 35 E	8 9 59 $\frac{1}{2}$	20 15	185 29 $\frac{1}{2}$	Ditto E N E	Ship's head S S W
June 29	7 45 $\frac{1}{2}$	N 73 26 W	10 11 49 $\frac{1}{2}$	20 10	185 25	Ditto N W	
	18 5 $\frac{1}{2}$	N 44 39 $\frac{1}{2}$ E	8 11 8 $\frac{1}{2}$	20 1 $\frac{1}{2}$	184 40	Ditto	
July 2	10 23 $\frac{1}{2}$	N 47 56 E	10 12 47	19 45	182 13		
July 3	13 30 $\frac{1}{2}$	N 71 6 $\frac{1}{2}$ W	8 12 9	19 48 $\frac{1}{2}$	182 0		
	40 40 $\frac{1}{2}$	N 48 41 $\frac{1}{2}$ E	5 11 52 $\frac{1}{2}$	19 58	181 40		
July 4	3 51 $\frac{1}{2}$	N 76 9 W	10 12 17	20 10 $\frac{1}{2}$	181 20		
	Amplit	N 78 10 W	1 12 40	20 11	181 18		
	5 56 $\frac{1}{2}$	N 50 28 $\frac{1}{2}$ E	8 12 29 $\frac{1}{2}$	20 34 $\frac{1}{2}$	180 44		
July 5	10 2 $\frac{1}{2}$	N 48 0 E	3 12 44	20 52	179 34		
July 6	16 31 $\frac{1}{2}$	N 44 44 E	10 12 17 $\frac{1}{2}$	20 53 $\frac{1}{2}$	178 41	Mr Clerke	
July 7	12 31 $\frac{1}{2}$	N 46 54 $\frac{1}{2}$ E	10 12 59	20 47 $\frac{1}{2}$	177 50	Cloudy	
July 8	6 52 $\frac{1}{2}$	N 49 47 $\frac{1}{2}$ E	10 13 8	20 20	176 23		
July 10	6 5	N 74 45 $\frac{1}{2}$ W	7 11 1	19 30 $\frac{1}{2}$	175 08	Cloudy	
	9 48 $\frac{1}{2}$	N 51 56 $\frac{1}{2}$ E	8 10 21 $\frac{1}{2}$	18 49 $\frac{1}{2}$	175 14	Ditto	
July 11	10 3 $\frac{1}{2}$	N 52 19 E	10 10 28 $\frac{1}{2}$	17 38 $\frac{1}{2}$	174 29		
July 12	5 18 $\frac{1}{2}$	N 54 46 $\frac{1}{2}$ E	6 10 24 $\frac{1}{2}$	16 37	173 38	Gregory's Compass	
	8 26 $\frac{1}{2}$	N 53 20 E	6 10 38 $\frac{1}{2}$			Knight's ditto	
July 13	6 14 $\frac{1}{2}$	N 75 30 $\frac{1}{2}$ W	10 10 35	16 15 $\frac{1}{2}$	173 15	Gregory's ditto	
	7 31 $\frac{1}{2}$	N 54 30 $\frac{1}{2}$ E	10 10 13 $\frac{1}{2}$	15 49	172 42	Knight's ditto	
July 14	11 28 $\frac{1}{2}$	N 52 30 E	10 11 3 $\frac{1}{2}$	15 13 $\frac{1}{2}$	171 38	Ditto	
July 22	23 33 $\frac{1}{2}$	N 49 20 $\frac{1}{2}$ E	6 9 10 $\frac{1}{2}$	16 24	167 53	Capt Cook Ship's Comp	
July 24	15 5	N 51 49 E	10 11 24	17 6	168 36		
July 25	12 31 $\frac{1}{2}$	N 74 13 W	5 9 36 $\frac{1}{2}$	17 23	168 38		
	10 12	N 56 50 $\frac{1}{2}$ E	6 8 44 $\frac{1}{2}$	17 21 $\frac{1}{2}$	168 38		
July 26	14 15 $\frac{1}{2}$	N 54 25 E	10 9 18 $\frac{1}{2}$	17 52 $\frac{1}{2}$	169 10		
July 27	13 5 $\frac{1}{2}$	N 73 20 W	5 9 2 $\frac{1}{2}$	18 12 $\frac{1}{2}$	169 30		
	6 14 $\frac{1}{2}$	N 55 19 $\frac{1}{2}$ E	6 12 6	18 25	169 47		
July 28	10 16 $\frac{1}{2}$	N 77 59 W	10 12 12 $\frac{1}{2}$	18 24	169 46	Ship's head S W	
	8 42 $\frac{1}{2}$	N 56 30 E	5 10 7 $\frac{1}{2}$	18 25 $\frac{1}{2}$	170 3	Knight's Comp Ship's head S W	
	12 9 $\frac{1}{2}$	N 56 21 E	5 8 43	18 26 $\frac{1}{2}$		Ship's ditto Ship's h ditto	
	13 14 $\frac{1}{2}$	N 55 46 E	5 8 47	18 26 $\frac{1}{2}$	170 3	Gregory's ditto Ship's h ditto	
July 29	10 28 $\frac{1}{2}$	N 78 13 W	10 12 19	18 34 $\frac{1}{2}$	170 3	Knight's ditto Ship's h S W	
July 30	10 21 $\frac{1}{2}$	N 78 6 $\frac{1}{2}$ W	8 12 20	18 30	169 42 $\frac{1}{2}$	Gregory's ditto Ship's h	
	8 22 $\frac{1}{2}$	N 79 48 $\frac{1}{2}$ W	6 12 37 $\frac{1}{2}$	18 29 $\frac{1}{2}$		Knight's ditto S S W	
	10 16	N 55 9 $\frac{1}{2}$ E	6 11 15 $\frac{1}{2}$	18 23 $\frac{1}{2}$	169 34	Gregory's ditto Ship's h	
	12 49	N 55 50 $\frac{1}{2}$ E	6 9 38 $\frac{1}{2}$	18 23 $\frac{1}{2}$		Knight's ditto I afterly	
July 31	9 45	N 78 16 $\frac{1}{2}$ W	6 11 2 $\frac{1}{2}$	18 24 $\frac{1}{2}$	169 32	Ditto	
	8 34 $\frac{1}{2}$	N 78 45 $\frac{1}{2}$ W	6 11 26 $\frac{1}{2}$			Gregory's Comp Ship's head	
	Amplit	N 81 45 W	1 11 3 $\frac{1}{2}$	18 24 $\frac{1}{2}$	169 15	Ditto	
	18 5 $\frac{1}{2}$	N 50 44 $\frac{1}{2}$ E	6 12 11 $\frac{1}{2}$			Ship's head S W	

1774.	Altitude of the ☉ L. L.	Magnetic Azimuth of the ☉'s Center.	No. of Obs.	Varia- tion East.	Latitude South.	Longitude East.	Observers, and Remarks.
Aug. 1.	13 0 $\frac{1}{2}$	N. 77 5 $\frac{1}{2}$ W.	6	11 38 $\frac{1}{2}$	18 47	169 10	Knight's Compaſs. } Ship's Gregory's ditto. } head E. S. E.
2.	15 59 $\frac{1}{2}$	N. 53 9 $\frac{1}{2}$ E.	6	11 6 $\frac{1}{2}$	18 44	169 2	
3.	8 14 $\frac{1}{2}$	N. 78 49 $\frac{1}{2}$ W.	8	10 53 $\frac{1}{2}$	18 42 $\frac{1}{2}$	169 2	
4.	Amplit. 9 18 $\frac{1}{2}$	N. 61 45 E.	1	10 10 $\frac{1}{2}$	18 36 $\frac{1}{2}$	169 15	
5.	10 22 $\frac{1}{2}$	N. 58 34 $\frac{1}{2}$ E.	6	8 8	18 36	169 15	Knight's Compaſs. } Ship's h. Gregory's ditto. } S. S. W.
6.	5 11 $\frac{1}{2}$	N. 61 11 E.	10	8 27	18 43	169 20 $\frac{1}{2}$	
7.	7 13 $\frac{1}{2}$	N. 58 37 $\frac{1}{2}$ E.	6	10 18	19 26 $\frac{1}{2}$	169 44	
8.	4 1 $\frac{1}{2}$	N. 58 37 $\frac{1}{2}$ E.	6	9 30 $\frac{1}{2}$	19 26 $\frac{1}{2}$	169 44	
9.	5 48 $\frac{1}{2}$	N. 64 51 $\frac{1}{2}$ E.	4	10 25 $\frac{1}{2}$	18 39	168 55	Gregory's Compaſs. Knight's ditto.
10.	8 20 $\frac{1}{2}$	N. 63 56 $\frac{1}{2}$ E.	3	10 20 $\frac{1}{2}$	18 39	168 55	
11.	9 37 $\frac{1}{2}$	N. 64 28 $\frac{1}{2}$ E.	8	10 9 $\frac{1}{2}$	16 52	168 35	
12.	Amplit. 9 37 $\frac{1}{2}$	N. 88 20 W.	1	11 26 $\frac{1}{2}$	15 55	167 25	
13.	9 3	N. 64 54 $\frac{1}{2}$ E.	7	11 26 $\frac{1}{2}$	15 6 $\frac{1}{2}$	167 3	Ship's Compaſs. Ditto. Knight's Compaſs. Cloudy.
14.	Ampl. 7 34 $\frac{1}{2}$	N. 69 15 E.	1	11 26 $\frac{1}{2}$	14 45	166 56	
15.	15 1	N. 66 20 $\frac{1}{2}$ E.	8	10 52	14 45	166 56	
16.	10 22 $\frac{1}{2}$	N. 62 58 $\frac{1}{2}$ E.	8	12 14 $\frac{1}{2}$	14 47 $\frac{1}{2}$	166 35	
17.	15 23 $\frac{1}{2}$	N. 64 5 $\frac{1}{2}$ E.	6	11 19 $\frac{1}{2}$	14 48 $\frac{1}{2}$	166 37	Ship's Compaſs. Ditto. Knight's Compaſs. Cloudy.
18.	10 22 $\frac{1}{2}$	N. 86 9 $\frac{1}{2}$ W.	6	9 15	14 48 $\frac{1}{2}$	166 37	
19.	15 23 $\frac{1}{2}$	N. 64 5 $\frac{1}{2}$ E.	6	11 19 $\frac{1}{2}$	14 57 $\frac{1}{2}$	166 34	
20.	9 49 $\frac{1}{2}$	N. 86 26 $\frac{1}{2}$ W.	4	8 47 $\frac{1}{2}$	15 23 $\frac{1}{2}$	166 35	
21.	6 6 $\frac{1}{2}$	N. 88 5 W.	3	9 12 $\frac{1}{2}$	15 23 $\frac{1}{2}$	166 35	Gregory's Compaſs. Ditto. Knight's Compaſs. Mr. Clerks. Gregory's Comp. Gregory's Compaſs. Ditto. Knight's Compaſs.
22.	8 8 $\frac{1}{2}$	N. 70 5 $\frac{1}{2}$ E.	6	8 38 $\frac{1}{2}$	17 46	165 28	
23.	15 37 $\frac{1}{2}$	N. 85 51 $\frac{1}{2}$ W.	8	10 1 $\frac{1}{2}$	18 21	165 22	
24.	6 10 $\frac{1}{2}$	N. 89 6 $\frac{1}{2}$ W.	10	9 23	19 14 $\frac{1}{2}$	164 50	
25.	8 33 $\frac{1}{2}$	N. 69 10 E.	6	9 44 $\frac{1}{2}$	19 50	164 44	Gregory's Compaſs. Ditto. Knight's Compaſs. Mr. Clerks. Gregory's Comp. Gregory's Compaſs. Ditto. Knight's Compaſs.
26.	10 46 $\frac{1}{2}$	N. 67 35 $\frac{1}{2}$ E.	6	10 25 $\frac{1}{2}$	19 50	164 44	
27.	7 2 $\frac{1}{2}$	N. 73 3 E.	5	7 59 $\frac{1}{2}$	20 18	164 40	
28.	8 5 $\frac{1}{2}$	N. 72 22 E.	5	8 15	20 18	164 40	
29.	6 0 $\frac{1}{2}$	N. 73 46 E.	5	7 42 $\frac{1}{2}$	20 18	164 40	Gregory's Compaſs. Knight's ditto. Capt. Cook. Ship's Comp. Ditto. Gregory's ditto.
30.	8 24 $\frac{1}{2}$	N. 72 22 E.	5	8 30 $\frac{1}{2}$	20 18	164 40	
31.	10 31 $\frac{1}{2}$	N. 71 9 E.	10	9 25	19 10	164 0	
32.	10 12 $\frac{1}{2}$	N. 72 3 E.	10	9 22 $\frac{1}{2}$	19 16 $\frac{1}{2}$	164 6	
33.	6 25 $\frac{1}{2}$	N. 73 27 $\frac{1}{2}$ E.	8	10 52 $\frac{1}{2}$	19 33 $\frac{1}{2}$	164 17	Ship's Compaſs. Knight's ditto. Gregory's ditto. Ship's ditto.
34.	11 38 $\frac{1}{2}$	N. 88 26 $\frac{1}{2}$ W.	6	9 1 $\frac{1}{2}$	19 33	164 17	
35.	9 41 $\frac{1}{2}$	N. 72 31 $\frac{1}{2}$ E.	6	11 6	19 33	164 17	
36.	10 56 $\frac{1}{2}$	N. 72 47 $\frac{1}{2}$ E.	6	10 11 $\frac{1}{2}$	19 33	164 17	
37.	12 14 $\frac{1}{2}$	N. 72 26 $\frac{1}{2}$ E.	6	10 2 $\frac{1}{2}$	19 34	164 23	Ship's Compaſs. Knight's ditto. Gregory's ditto. Ship's ditto.
38.	15 53 $\frac{1}{2}$	N. 89 25 W.	8	9 22 $\frac{1}{2}$	20 2	164 58	
39.	16 26 $\frac{1}{2}$	N. 72 17 $\frac{1}{2}$ E.	2	10 52	20 25	165 50	
40.	11 49 $\frac{1}{2}$	N. 73 15 E.	6	10 3 $\frac{1}{2}$	20 52	165 50	
41.	13 14 $\frac{1}{2}$	N. 73 29 $\frac{1}{2}$ E.	6	10 2	20 52	165 50	Gregory's ditto. Ship's ditto. Knight's ditto. Gregory's ditto.
42.	14 51 $\frac{1}{2}$	N. 71 51 $\frac{1}{2}$ E.	6	10 0 $\frac{1}{2}$	20 52	165 50	
43.	14 10 $\frac{1}{2}$	S. 86 46 $\frac{1}{2}$ W.	6	10 40 $\frac{1}{2}$	20 52	165 50	
44.	12 44 $\frac{1}{2}$	S. 85 30 $\frac{1}{2}$ W.	6	9 53	20 52	166 8	
45.	11 26 $\frac{1}{2}$	S. 85 46 $\frac{1}{2}$ W.	6	9 53	20 52	166 8	
46.	9 55 $\frac{1}{2}$	N. 75 7 $\frac{1}{2}$ E.	6	10 12	20 52	166 8	

1774.	Altitude of the ☉ & L. L.	Magnetic Azimuth of the ☉ center	☉	Varia- tion East	Latitude South	Longitude East.	Observers and Remarks.
8 Sept. 21.	5 47 Amplit	S 83 4 $\frac{1}{2}$ W	6	9 58	20 57 $\frac{1}{2}$	166 10	
		N 81 30 E	1		21 12 $\frac{1}{2}$		
	9 33 $\frac{1}{2}$	N 77 49 $\frac{1}{2}$ E	6	7 52 $\frac{1}{2}$	21 12 $\frac{1}{2}$	166 42	Gregory's Compass
21 — 22	10 47 $\frac{1}{2}$	S 85 31 W	5	9 12	21 12 $\frac{1}{2}$		Ship's ditto
	9 51 $\frac{1}{2}$	S 85 47 W	5	8 22 $\frac{1}{2}$	21 37 $\frac{1}{2}$	166 50	Gregory's ditto
	11 2	N 76 23 $\frac{1}{2}$ E	6	9 0	21 49 $\frac{1}{2}$	167 2	
2 — 23	11 39 $\frac{1}{2}$	N 73 58 $\frac{1}{2}$ E	6	11 32 $\frac{1}{2}$	21 57	167 28	
10 — 25	11 9 $\frac{1}{2}$	N 77 21 $\frac{1}{2}$ E	6	9 11 $\frac{1}{2}$			Ship's Compass
	12 41 $\frac{1}{2}$	N 77 8 $\frac{1}{2}$ E	6	8 45 $\frac{1}{2}$	22 9 $\frac{1}{2}$	167 28	Knight's ditto
24 — 29	7 56 $\frac{1}{2}$	N 80 55 E	6	8 34			Ship's ditto
	9 15 $\frac{1}{2}$	N 80 21 E	5	8 39	22 28 $\frac{1}{2}$	167 17	Knight's ditto
2 — 30	10 24 $\frac{1}{2}$	S 81 7 $\frac{1}{2}$ W	7	10 12 $\frac{1}{2}$			Ship's ditto
	9 14 $\frac{1}{2}$	S 80 38 $\frac{1}{2}$ W	6	10 11 $\frac{1}{2}$	22 41	167 25	Gregory's ditto } By Capt
	7 53 $\frac{1}{2}$	S 78 57 $\frac{1}{2}$ W	6	11 19 $\frac{1}{2}$			Knight's ditto. } Cook
10 Oct. 2	11 1 $\frac{1}{2}$	S 81 0 $\frac{1}{2}$ W	6	9 52 $\frac{1}{2}$			Ditto
	8 47 $\frac{1}{2}$	S 80 51 $\frac{1}{2}$ W	3	9 2	23 19 $\frac{1}{2}$	169 40	Gregory's Compass
3 — 3	10 30 $\frac{1}{2}$	N 80 36 $\frac{1}{2}$ E	6	9 19 $\frac{1}{2}$			Ditto
	12 52 $\frac{1}{2}$	N 78 49 $\frac{1}{2}$ E	6	9 43 $\frac{1}{2}$	25 13	171 8	Knight's Compass
4 — 4	8 29 $\frac{1}{2}$	S 78 48 $\frac{1}{2}$ W	6	10 29	25 46 $\frac{1}{2}$	171 21 $\frac{1}{2}$	Gregory's ditto
	12 55 $\frac{1}{2}$	N 77 15 E	6	11 22 $\frac{1}{2}$	26 33 $\frac{1}{2}$	171 35	Knight's ditto
5 — 5	11 55 $\frac{1}{2}$	N 75 7 $\frac{1}{2}$ E	6	14 10			Ditto
	13 18 $\frac{1}{2}$	N 75 25 $\frac{1}{2}$ E	6	12 58	27 54	171 47	Gregory's Compass
	14 46	N 74 5 E	6	13 40 $\frac{1}{2}$			Knight's ditto
24 — 6	10 44 $\frac{1}{2}$	S 80 6 W	5	9 50			Ditto, } Ship's h.
	8 46 $\frac{1}{2}$	S 78 21 W	5	10 26 $\frac{1}{2}$	27 52	171 45	Gregory's Comp } S P
	15 0 $\frac{1}{2}$	N 76 48 $\frac{1}{2}$ E	8	11 17 $\frac{1}{2}$	27 52 $\frac{1}{2}$	171 45	Ditto Ship's head N W
2 — 7	9 13 $\frac{1}{2}$	N 77 40 $\frac{1}{2}$ E	6	13 53			Knight's Compass
	10 17 $\frac{1}{2}$	N 77 3 $\frac{1}{2}$ E	6	13 54	28 16 $\frac{1}{2}$	170 45	Ditto.
	12 35 $\frac{1}{2}$	N 76 55 $\frac{1}{2}$ E	6	12 47 $\frac{1}{2}$			Gregory's Compass
7 — 8	4 58 $\frac{1}{2}$	S 73 47 W	5	12 11			Ditto
	4 15 $\frac{1}{2}$	S 72 18 W	5	13 16 $\frac{1}{2}$	28 37 $\frac{1}{2}$	170 19	Ship's Compass
	3 16 $\frac{1}{2}$	N 71 6 $\frac{1}{2}$ W	6	13 54			Knight's ditto
3 — 10	13 18	N 79 0 $\frac{1}{2}$ E	6	11 28 $\frac{1}{2}$			Ship's ditto
	14 59 $\frac{1}{2}$	N 78 6 $\frac{1}{2}$ E	6	11 25 $\frac{1}{2}$	29 5 $\frac{1}{2}$	168 10	Knight's ditto
	16 34	N 78 25 E	6	10 15 $\frac{1}{2}$			Gregory's ditto
8 — 11	13 39 $\frac{1}{2}$	S 78 20 W	6	11 19			Ship's ditto
	12 3 $\frac{1}{2}$	S 77 53 $\frac{1}{2}$ W	6	10 51 $\frac{1}{2}$	29 37	168 2	Knight's ditto
	10 34 $\frac{1}{2}$	S 78 7 $\frac{1}{2}$ W	6	9 47 $\frac{1}{2}$			Gregory's ditto
	14 24 $\frac{1}{2}$	N 79 1 $\frac{1}{2}$ E	8	10 64 $\frac{1}{2}$	30 35 $\frac{1}{2}$	167 51	Knight's ditto
9 — 12	21 41	N 76 9 $\frac{1}{2}$ E	6	8 53	32 39	168 10	Gregory's ditto
24 — 13	12 20 $\frac{1}{2}$	S 80 15 W	7	8 29	33 10 $\frac{1}{2}$	168 36	Ditto
	17 37 $\frac{1}{2}$	N 79 3 $\frac{1}{2}$ E	6	8 47 $\frac{1}{2}$	33 43	169 9	Ditto
2 — 14	11 24 $\frac{1}{2}$	S 77 25 $\frac{1}{2}$ W	6	10 29 $\frac{1}{2}$	34 25 $\frac{1}{2}$	169 45	Knight's Compass
	15 41 $\frac{1}{2}$	N 78 53 $\frac{1}{2}$ E	8	10 18 $\frac{1}{2}$	35 18 $\frac{1}{2}$	170 34	Ditto.
2 Nov 11	20 40 $\frac{1}{2}$	N 81 26 E	5	13 15 $\frac{1}{2}$	42 54 $\frac{1}{2}$	175 30	
5 — 12	9 23 $\frac{1}{2}$	S 62 14 $\frac{1}{2}$ W	6	14 37 $\frac{1}{2}$	43 34	175 58	

1774.	Altitude of the ☉ L. L.	Magnetic Azimuth of the ☉ center.	☉ of ☉	Vari- ation East.	Latitude South.	Longitude East.	Observers, and Remarks.
h Nov. 12.	20 24 $\frac{1}{2}$	N. 81 55 E.	6 13 26 $\frac{1}{2}$		44 7	176 53	
h — 14.	23 46 $\frac{1}{2}$	N. 78 39 E.	5 12 51		47 33	180 50	
h — 15.	12 53 $\frac{1}{2}$	S. 63 56 W.	5 12 42		48 6 $\frac{1}{2}$	181 23	
h — 16.	13 19 $\frac{1}{2}$	S. 64 13 $\frac{1}{2}$ W.	4 12 28		49 59	183 38	Very cloudy.
h — 17.	21 32 $\frac{1}{2}$	N. 82 38 $\frac{1}{2}$ E.	8 10 54 $\frac{1}{2}$		52 31 $\frac{1}{2}$	188 31	Mr. Gilbert.
h — 22.	22 56 $\frac{1}{2}$	N. 82 55 E.	5 9 35		55 42 $\frac{1}{2}$	204 34	Gregory's compass: cloudy.
h — 23.	20 24 $\frac{1}{2}$	S. 74 52 $\frac{1}{2}$ W.	12 8 49 $\frac{1}{2}$		55 42 $\frac{1}{2}$	204 40	
h — 25.	10 4 $\frac{1}{2}$	S. 61 5 $\frac{1}{2}$ W.	6 7 1 $\frac{1}{2}$		56 7	213 0	
h Dec. 1.	24 27 $\frac{1}{2}$	S. 87 55 $\frac{1}{2}$ E.	6 1 20		55 12	237 0	Gregory's compass: cloudy,
h — 3.	22 18 $\frac{1}{2}$	S. 85 54 $\frac{1}{2}$ E.	12 3 18		53 21	240 50	and a great sea.
h — 4.	13 23 $\frac{1}{2}$	S. 80 13 $\frac{1}{2}$ W.	6 3 35 $\frac{1}{2}$		53 15 $\frac{1}{2}$	242 17	Gregory's compass.
h — 4.	22 6 $\frac{1}{2}$	S. 78 59 $\frac{1}{2}$ W.	6 3 13 $\frac{1}{2}$		53 6	246 10	Knight's ditto.
h — 5.	18 27 $\frac{1}{2}$	S. 74 15 $\frac{1}{2}$ W.	10 3 5 $\frac{1}{2}$		53 13	250 5	Mr. Gilbert: Greg. compass.
h — 5.	16 43	S. 70 32 $\frac{1}{2}$ W.	6 4 26 $\frac{1}{2}$		53 17 $\frac{1}{2}$	252 0	Knight's compass.
h — 6.	8 24 $\frac{1}{2}$	S. 58 30 W.	8 4 58		53 17 $\frac{1}{2}$	252 0	Gregory's ditto.
h — 11.	15 55 $\frac{1}{2}$	S. 78 45 $\frac{1}{2}$ E.	7 5 7 $\frac{1}{2}$		53 17 $\frac{1}{2}$	252 0	Ditto.
h — 11.	24 5 $\frac{1}{2}$	S. 73 38 $\frac{1}{2}$ W.	8 9 54 $\frac{1}{2}$		53 17 $\frac{1}{2}$	252 0	Ditto.
h — 12.	20 40 $\frac{1}{2}$	S. 67 35 W.	4 11 31		53 17 $\frac{1}{2}$	252 0	Knight's compass.
h — 12.	15 0 $\frac{1}{2}$	S. 60 14 $\frac{1}{2}$ W.	6 11 17 $\frac{1}{2}$		53 21 $\frac{1}{2}$	268 24	Gregory's ditto.
h — 12.	14 6 $\frac{1}{2}$	S. 58 30 $\frac{1}{2}$ W.	6 11 48 $\frac{1}{2}$		53 21 $\frac{1}{2}$	268 24	Knight's ditto.
h — 12.	16 33 $\frac{1}{2}$	S. 86 1 $\frac{1}{2}$ E.	8 12 31		53 23 $\frac{1}{2}$	269 30	Gregory's ditto.
h — 13.	9 12 $\frac{1}{2}$	S. 49 30 $\frac{1}{2}$ W.	6 13 49 $\frac{1}{2}$		53 23 $\frac{1}{2}$	270 30	Knight's ditto.
h — 13.	8 37 $\frac{1}{2}$	S. 49 35 $\frac{1}{2}$ W.	6 12 56 $\frac{1}{2}$		53 23 $\frac{1}{2}$	270 30	Mr. Pickersgill: G.'s ditto.
h — 13.	14 29 $\frac{1}{2}$	S. 84 56 $\frac{1}{2}$ E.	6 14 4 $\frac{1}{2}$		53 24 $\frac{1}{2}$	272 28	Ditto.
h — 13.	16 42 $\frac{1}{2}$	S. 87 20 $\frac{1}{2}$ E.	6 13 32 $\frac{1}{2}$		53 24 $\frac{1}{2}$	272 28	Gregory's compass.
h — 14.	13 35 $\frac{1}{2}$	S. 53 11 $\frac{1}{2}$ W.	6 16 11 $\frac{1}{2}$		53 26 $\frac{1}{2}$	273 48	Knight's ditto.
h — 14.	12 8 $\frac{1}{2}$	S. 52 47 $\frac{1}{2}$ W.	6 14 35 $\frac{1}{2}$		53 26 $\frac{1}{2}$	273 48	Gregory's ditto.
h — 15.	16 16 $\frac{1}{2}$	S. 55 14 $\frac{1}{2}$ W.	6 17 37 $\frac{1}{2}$		53 30 $\frac{1}{2}$	277 30	Knight's ditto.
h — 16.	12 29 $\frac{1}{2}$	S. 49 17 $\frac{1}{2}$ W.	6 18 24 $\frac{1}{2}$		53 25 $\frac{1}{2}$	280 58	Mr. Gilbert: Greg. ditto.
h — 16.	11 4 $\frac{1}{2}$	S. 47 34 $\frac{1}{2}$ W.	6 18 15 $\frac{1}{2}$		53 25 $\frac{1}{2}$	280 58	Knight's ditto.
h — 16.	13 1 $\frac{1}{2}$	S. 86 38 E.	5 18 16 $\frac{1}{2}$		53 25	282 46	Mr. Pickersgill: with Gre-
h — 16.	19 36 $\frac{1}{2}$	S. 94 52 $\frac{1}{2}$ E.	17 44 $\frac{1}{2}$		53 25	282 46	gory's compass.
h — 16.	23 59 $\frac{1}{2}$	S. 102 30 $\frac{1}{2}$ E.	6 19 40 $\frac{1}{2}$		53 25	282 46	
h — 17.	16 22 $\frac{1}{2}$	S. 52 20 W.	6 20 31		53 15 $\frac{1}{2}$	284 12	Mr. Gilbert: Greg. ditto.
h — 17.	14 58 $\frac{1}{2}$	S. 49 46 $\frac{1}{2}$ W.	6 21 13 $\frac{1}{2}$		53 15 $\frac{1}{2}$	284 12	Knight's ditto.
h — 18.	16 43 $\frac{1}{2}$	S. 52 57 $\frac{1}{2}$ W.	6 20 10 $\frac{1}{2}$		54 43 $\frac{1}{2}$	286 59	Ship's ditto.
h — 18.	15 50 $\frac{1}{2}$	S. 50 49 $\frac{1}{2}$ W.	6 21 5 $\frac{1}{2}$		54 43 $\frac{1}{2}$	286 59	Knight's ditto.
h — 18.	14 58 $\frac{1}{2}$	S. 50 15 W.	6 20 11 $\frac{1}{2}$		54 43 $\frac{1}{2}$	286 59	Gregory's ditto.
h — 19.	17 31 $\frac{1}{2}$	S. 51 45 W.	6 22 22		55 31 $\frac{1}{2}$	289 20	Ship's ditto.
h — 19.	16 38 $\frac{1}{2}$	S. 50 35 $\frac{1}{2}$ W.	6 22 16 $\frac{1}{2}$		55 31 $\frac{1}{2}$	289 20	Knight's ditto.
h — 29.	18 45 $\frac{1}{2}$	S. 52 44 $\frac{1}{2}$ W.	6 23 28 $\frac{1}{2}$		55 20	293 55	Ship's ditto.
h — 29.	17 23 $\frac{1}{2}$	S. 49 56 $\frac{1}{2}$ W.	4 24 15 $\frac{1}{2}$		55 20	293 55	Knight's ditto.
h — 31.	14 9	S. 41 45 $\frac{1}{2}$ W.	6 25 22 $\frac{1}{2}$		54 41	295 46	Ship's ditto.
h — 31.	11 8	S. 39 53 $\frac{1}{2}$ W.	6 25 46		54 41	295 46	Knight's ditto.
h — 31.	25 44 $\frac{1}{2}$	N. 68 30 $\frac{1}{2}$ E.	6 25 24 $\frac{1}{2}$		54 41	295 46	Ship's ditto.
h — 31.	26 43 $\frac{1}{2}$	N. 67 11 $\frac{1}{2}$ E.	6 25 21		54 41	295 46	Knight's ditto.

1775	Alt. inde of the ☉ & L L	Magnetic Azimuth of the ☉ & cente	Z. Pole	Vari- ation East	Latitude South	Longitude East	Observers and Remarks
O Jan 1	11 20 $\frac{1}{2}$	S 41 21	W	10 24 45 $\frac{1}{2}$	54 41	295 46	Knight's Compass
D — 2	12 34 $\frac{1}{2}$	S 44 49 $\frac{1}{2}$	W	6 23 14 $\frac{1}{2}$	54 41	295 46	Ditto Mr Gilbert
8 — 3	18 26 $\frac{1}{2}$	N 83 35	E	8 19 54 $\frac{1}{2}$	55 11 $\frac{1}{2}$	297 7	Ship's Compass } The Ship
	20 24 $\frac{1}{2}$	N 80 56 $\frac{1}{2}$	E	8 19 47 $\frac{1}{2}$	55 11 $\frac{1}{2}$	297 7	Knight's ditto } rolled 28°
W — 4	17 0 $\frac{1}{2}$	N 85 13 $\frac{1}{2}$	E	10 20 11 $\frac{1}{2}$	56 42 $\frac{1}{2}$	300 30	The Ship rolled 26°
8 — 6	19 16	N 77 10	E	4 24 36	57 22 $\frac{1}{2}$	306 19	Mr Pickersgill Greg Comp
	23 12 $\frac{1}{2}$	N 71 13	E	5 24 25 $\frac{1}{2}$	57 22 $\frac{1}{2}$	306 19	Knight's Comp Great motion
b — 7	16 12 $\frac{1}{2}$	S 50 1 $\frac{1}{2}$	W	6 23 53 $\frac{1}{2}$	56 27 $\frac{1}{2}$	306 30	Ditto
O — 8	12 57 $\frac{1}{2}$	S 50 3 $\frac{1}{2}$	W	8 19 55 $\frac{1}{2}$	55 3	303 10	Ditto
8 — 10	22 54	N 78 10	E	6 17 42	54 38 $\frac{1}{2}$	314 20	
b — 14	29 56 $\frac{1}{2}$	S 78 49 $\frac{1}{2}$	W	12 15 44 $\frac{1}{2}$	53 57 $\frac{1}{2}$	320 35	
D — 16	5 21 $\frac{1}{2}$	S 73 22 $\frac{1}{2}$	E	4 12 29 $\frac{1}{2}$	53 56	322 37	Mr Gilbert Ship's Compass
8 — 17	18 37 $\frac{1}{2}$	S 68 50	W	6 11 13 $\frac{1}{2}$	54 9	323 10	Ship's Compass
	19 6	N 89 0	E	2 10 1			Mr Clerke Ship's Compass
	20 31 $\frac{1}{2}$	N 85 46 $\frac{1}{2}$	E	6 11 18 $\frac{1}{2}$	54 20 $\frac{1}{2}$	323 54	Knight's Compass
	21 31 $\frac{1}{2}$	N 83 50	L	5 11 52 $\frac{1}{2}$			Ship's ditto
4 — 19	15 6	S 64 28 $\frac{1}{2}$	W	6 11 31 $\frac{1}{2}$	54 47 $\frac{1}{2}$	324 20	Ditto
	14 0	S 62 45	W	2 11 42 $\frac{1}{2}$	54 47 $\frac{1}{2}$	324 20	Knight's Compass
	12 49 $\frac{1}{2}$	S 59 48 $\frac{1}{2}$	W	3 12 59 $\frac{1}{2}$			Ditto
	12 58	S 88 28 $\frac{1}{2}$	E	6 15 13 $\frac{1}{2}$	54 59 $\frac{1}{2}$	323 40	Ship's Compass
	14 9 $\frac{1}{2}$	N 88 39 $\frac{1}{2}$	E	6 16 30 $\frac{1}{2}$	54 59 $\frac{1}{2}$	323 40	Knight's ditto
O — 22	19 48 $\frac{1}{2}$	S 69 26 $\frac{1}{2}$	W	8 14 15 $\frac{1}{2}$	54 54 $\frac{1}{2}$	325 37	{ Mr Gilbert Greg Comp
D — 23	11 42 $\frac{1}{2}$	S 83 43 $\frac{1}{2}$	E	3 10 42 $\frac{1}{2}$	54 57 $\frac{1}{2}$	325 25	{ A bad horizon
8 — 25	18 20 $\frac{1}{2}$	S 74 28	W	5 9 6	54 57 $\frac{1}{2}$	325 25	Bad horizon
	17 19 $\frac{1}{2}$	S 74 11 $\frac{1}{2}$	W	6 7 24 $\frac{1}{2}$	56 14 $\frac{1}{2}$	327 30	Knight's Compass
	16 10 $\frac{1}{2}$	S 71 16	W	5 8 38	56 14 $\frac{1}{2}$	327 30	Gregory's ditto
	14 21 $\frac{1}{2}$	S 89 50	E	5 12 33 $\frac{1}{2}$	57 4 $\frac{1}{2}$	328 58	Knight's ditto
4 — 26	17 9 $\frac{1}{2}$	S 94 30	E	6 11 37 $\frac{1}{2}$	57 4 $\frac{1}{2}$	328 58	Ditto
	18 33 $\frac{1}{2}$	N 84 36 $\frac{1}{2}$	E	6 10 43 $\frac{1}{2}$	59 14	329 0	Gregory's Compass
8 — 31	14 2 $\frac{1}{2}$	S 89 37	E	8 10 47 $\frac{1}{2}$	59 14	329 0	Knight's ditto
	15 30 $\frac{1}{2}$	S 92 45 $\frac{1}{2}$	E	8 10 37 $\frac{1}{2}$	58 37 $\frac{1}{2}$	332 45	Ship's ditto } Capt Cook
4 Feb 2	13 56 $\frac{1}{2}$	S 70 50	W	3 9 49 $\frac{1}{2}$	58 37 $\frac{1}{2}$	332 45	Knight's ditto }
	13 33 $\frac{1}{2}$	S 70 35	W	5 9 15 $\frac{1}{2}$	57 48 $\frac{1}{2}$	333 8	Mr Gilbert Ship's Comp
8 — 5	15 58	S 80 37 $\frac{1}{2}$	W	2 4 33 $\frac{1}{2}$			The same Compass
	14 56	S 79 15	W	1 4 20 $\frac{1}{2}$	57 16 $\frac{1}{2}$	336 38	Mr Gilbert
	14 9 $\frac{1}{2}$	S 76 12 $\frac{1}{2}$	W	6 6 11	57 16 $\frac{1}{2}$	336 38	Mr Clerke } Ship's Compass
8 — 7	14 30 $\frac{1}{2}$	S 82 17 $\frac{1}{2}$	W	8 1 52 $\frac{1}{2}$	58 28	342 50	Knight's Compass
	18 39	N 86 3	E	5 2 42 $\frac{1}{2}$			Gregory's Compass
	19 25 $\frac{1}{2}$	N 86 42 $\frac{1}{2}$	E	6 0 46 $\frac{1}{2}$	58 29 $\frac{1}{2}$	344 40	Ship's ditto } Mr Gil
	20 13 $\frac{1}{2}$	N 83 48	E	5 2 21	58 29 $\frac{1}{2}$	344 40	Knight's ditto }
	21 32 $\frac{1}{2}$	N 80 49	E	5 3 5 $\frac{1}{2}$			Knight's Compass
8 — 8	9 36 $\frac{1}{2}$	S 77 30	E	6 0 29 $\frac{1}{2}$	58 28	346 44	Gregory's dit Mr Pickersgill
	12 44 $\frac{1}{2}$	S 83 5	E	3 0 50 $\frac{1}{2}$			Knight's Compass
4 — 9	14 16 $\frac{1}{2}$	S 85 5 $\frac{1}{2}$	W	8 0 7 $\frac{1}{2}$	58 26 $\frac{1}{2}$	346 53	Ditto

1775.	Altitude of the ☉ L. L.	Magnetic Azimuth of the ☉'s Centre.	Z C C C	Variation West.	Latitude South.	Longitude East.	Observers, and Remarks.
Feb. 9.	10 57 $\frac{1}{2}$	S. 79 41 $\frac{1}{2}$ E.	0	0 16	58 17	348 16	Knight's Compass. Ship's ditto.
	12 28 $\frac{1}{2}$	S. 81 43 $\frac{1}{2}$ E.	6	0 42 $\frac{1}{2}$			
10.	18 39 $\frac{1}{2}$	S. 94 19 $\frac{1}{2}$ W.	10	1 40 $\frac{1}{2}$	58 15 $\frac{1}{2}$	350 6	Knight's ditto. Ship's ditto.
11.	15 58 $\frac{1}{2}$	S. 85 36 $\frac{1}{2}$ E.	8	3 41 $\frac{1}{2}$			
	17 10 $\frac{1}{2}$	S. 87 0 $\frac{1}{2}$ E.	6	4 16 $\frac{1}{2}$	58 23	352 56	Knight's ditto. } Mr. Gilbert.
12.	21 42 $\frac{1}{2}$	N. 78 22 $\frac{1}{2}$ W.	2	3 2 $\frac{1}{2}$			
	17 3 $\frac{1}{2}$	S. 87 14 $\frac{1}{2}$ E.	6	4 21 $\frac{1}{2}$	58 2	353 15	Ditto.
	18 15 $\frac{1}{2}$	S. 88 59 E.	5	4 35 $\frac{1}{2}$			
Dropped 360° of Longitude, and repeated at February the 14th.							
14.	13 53	N. 80 51 $\frac{1}{2}$ W.	12	6 50 $\frac{1}{2}$	56 14 $\frac{1}{2}$	4 50	A great sea.
10.	10 3 $\frac{1}{2}$	N. 75 31 $\frac{1}{2}$ W.	6	12 7	54 24 $\frac{1}{2}$	6 30	
	23 51	S. 89 37 $\frac{1}{2}$ E.	8	13 42 $\frac{1}{2}$	54 21 $\frac{1}{2}$	8 6	Gregory's Compass. Knight's ditto.
17.	14 50 $\frac{1}{2}$	N. 76 29 W.	10	13 16 $\frac{1}{2}$	54 25 $\frac{1}{2}$	9 20	
21.	16 3 $\frac{1}{2}$	N. 66 15 $\frac{1}{2}$ W.	10	19 8 $\frac{1}{2}$	54 26	19 15	Mr. Gilbert. Ship's Comp.
25.	24 56 $\frac{1}{2}$	S. 82 49 $\frac{1}{2}$ E.	10	24 7 $\frac{1}{2}$	49 37 $\frac{1}{2}$	29 32	
28.	12 18 $\frac{1}{2}$	N. 65 3 $\frac{1}{2}$ W.	6	23 12	46 48	33 36	Knight's Compass.
	9 54 $\frac{1}{2}$	N. 67 22 $\frac{1}{2}$ W.	6	23 50 $\frac{1}{2}$			
March 1.	20 53 $\frac{1}{2}$	S. 77 30 E.	2	24 12	45 53 $\frac{1}{2}$	31 0	Mr. Gilbert. Ship's Comp.
	22 23 $\frac{1}{2}$	S. 78 50 E.	3	24 34			
2.	4 13 $\frac{1}{2}$	N. 73 23 $\frac{1}{2}$ W.	8	22 24 $\frac{1}{2}$	45 3 $\frac{1}{2}$	30 45	Knight's Compass.
	13 19 $\frac{1}{2}$	S. 70 38 $\frac{1}{2}$ E.	2	22 56 $\frac{1}{2}$	44 10	30 3	
3.	18 21 $\frac{1}{2}$	N. 57 32 $\frac{1}{2}$ W.	8	23 57 $\frac{1}{2}$	43 33	29 40	Very hazy.
	16 37 $\frac{1}{2}$	S. 74 28 E.	10	22 41 $\frac{1}{2}$	43 43 $\frac{1}{2}$	29 15	
6.	10 40 $\frac{1}{2}$	S. 70 28 E.	8	11 57 $\frac{1}{2}$	41 33	26 36	
8.	7 8 $\frac{1}{2}$	S. 68 51 E.	6	21 30 $\frac{1}{2}$	42 0 $\frac{1}{2}$	25 25	
10.	7 51 $\frac{1}{2}$	N. 67 33 $\frac{1}{2}$ W.	8	20 50 $\frac{1}{2}$	40 47 $\frac{1}{2}$	23 50	
12.	7 18 $\frac{1}{2}$	N. 66 7 $\frac{1}{2}$ W.	8	22 9 $\frac{1}{2}$	38 40 $\frac{1}{2}$	24 10	
13.	6 21 $\frac{1}{2}$	N. 66 56 $\frac{1}{2}$ W.	8	23 2	37 0	22 24	
14.	9 41 $\frac{1}{2}$	S. 71 30 $\frac{1}{2}$ E.	8	12 46	35 20 $\frac{1}{2}$	22 17	
16.	7 14 $\frac{1}{2}$	S. 73 21 $\frac{1}{2}$ E.	8	10 1 $\frac{1}{2}$	34 55 $\frac{1}{2}$	21 10	
17.	12 19 $\frac{1}{2}$	N. 61 7 $\frac{1}{2}$ W.	6	21 30 $\frac{1}{2}$	35 6 $\frac{1}{2}$	20 50	
	7 37 $\frac{1}{2}$	S. 73 51 $\frac{1}{2}$ E.	7	20 22 $\frac{1}{2}$	34 58	20 40	
April 27.	9 57 $\frac{1}{2}$	N. 84 49 $\frac{1}{2}$ E.	6	19 4 $\frac{1}{2}$	33 4	16 43	
28.	9 35 $\frac{1}{2}$	N. 86 15 E.	6	20 1	31 45 $\frac{1}{2}$	14 13	
29.	9 9 $\frac{1}{2}$	N. 85 30 E.	6	18 46	30 29	11 52	
30.	9 1 $\frac{1}{2}$	N. 84 34 $\frac{1}{2}$ E.	7	17 42 $\frac{1}{2}$	29 21 $\frac{1}{2}$	10 12	Knight's Compass. Ship's ditto.
	12 6 $\frac{1}{2}$	N. 82 48 $\frac{1}{2}$ E.	6	18 7	29 21	10 12	
May 2.	7 53	N. 84 30 E.	6	16 42 $\frac{1}{2}$	27 12 $\frac{1}{2}$	7 11	
3.	6 55 $\frac{1}{2}$	N. 84 46 $\frac{1}{2}$ E.	7	16 13 $\frac{1}{2}$	26 42 $\frac{1}{2}$	6 42	
4.	4 45 $\frac{1}{2}$	N. 52 16 $\frac{1}{2}$ W.	6	17 8	26 25	6 30	
6.	9 48 $\frac{1}{2}$	N. 81 53 $\frac{1}{2}$ E.	8	15 12 $\frac{1}{2}$	23 44 $\frac{1}{2}$	3 40 $\frac{1}{2}$	
	13 33 $\frac{1}{2}$	N. 80 1 $\frac{1}{2}$ E.	6	15 36	23 44 $\frac{1}{2}$	3 40 $\frac{1}{2}$	
7.	7 10 $\frac{1}{2}$	N. 53 7 $\frac{1}{2}$ W.	8	14 57 $\frac{1}{2}$	23 11 $\frac{1}{2}$	3 0 $\frac{1}{2}$	
	7 58 $\frac{1}{2}$	N. 83 7 $\frac{1}{2}$ E.	4	15 23 $\frac{1}{2}$	22 23 $\frac{1}{2}$	2 12 $\frac{1}{2}$	
8.	21 54 $\frac{1}{2}$	N. 76 16 $\frac{1}{2}$ E.	6	14 21	21 1 $\frac{1}{2}$	0 33	

1775	Altitude of the ☉ L L	Magnetic Azimuth of the ☉ s Center	No of Obs	Vari- ation West	Latitude North	Longitude West	Observers and Remarks
♂ May 9	7 22 $\frac{1}{2}$	N 54 59 $\frac{1}{2}$ W	6 13 11 $\frac{1}{2}$		20 31 $\frac{1}{2}$	0 4	Gregory's Compaſs Mr Burr
♂ ——— 11	8 57 $\frac{1}{2}$	N 81 25 $\frac{1}{2}$ E	6 14 55 $\frac{1}{2}$		19 49	0 48	
♂ ——— 12	3 17 $\frac{1}{2}$	N 55 47 $\frac{1}{2}$ W	6 14 0		18 44 $\frac{1}{2}$	2 23	
♂ ——— 13	10 58 $\frac{1}{2}$	N 80 22 $\frac{1}{2}$ E	8 13 57		18 32 $\frac{1}{2}$	2 35	
♂ ——— 14	4 17 $\frac{1}{2}$	N 55 31 $\frac{1}{2}$ W	8 13 38 $\frac{1}{2}$		18 21 $\frac{1}{2}$	2 45	On board the ſhip at St Helena
♂ ——— 15	7 53 $\frac{1}{2}$	N 81 20 E	6 13 33 $\frac{1}{2}$		17 55	3 5	
♂ ——— 16	16 53 $\frac{1}{2}$	N 77 32 $\frac{1}{2}$ E	6 13 51 $\frac{1}{2}$		16 56 $\frac{1}{2}$	4 2	
♂ ——— 17	7 26 $\frac{1}{2}$	N 81 4 $\frac{1}{2}$ E	6 13 15 $\frac{1}{2}$		16 10 $\frac{1}{2}$	4 55	
♂ ——— 18	8 52 $\frac{1}{2}$	N 54 26 $\frac{1}{2}$ W	6 12 18 $\frac{1}{2}$		15 55 $\frac{1}{2}$	5 49	Mr Gilbert
♂ ——— 19	24 3	N 71 1 E	5 12 12 $\frac{1}{2}$		14 45 $\frac{1}{2}$	7 40	
♂ ——— 20	8 20 $\frac{1}{2}$	N 77 30 $\frac{1}{2}$ E	8 11 24 $\frac{1}{2}$		13 45 $\frac{1}{2}$	9 40	
♂ ——— 21	9 21 $\frac{1}{2}$	N 76 47 $\frac{1}{2}$ E	6 10 56 $\frac{1}{2}$		12 9	10 48	
♂ ——— 22	10 51 $\frac{1}{2}$	N 76 55 $\frac{1}{2}$ E	6 11 21 $\frac{1}{2}$		10 21	11 40	Taken on board the ſhip, at anchor, off the Iſland of Al cenſion
♂ ——— 23	9 10 $\frac{1}{2}$	N 77 35 E	6 11 13		8 38 $\frac{1}{2}$	12 45	
♂ ——— 24	8 26 $\frac{1}{2}$	N 77 56 $\frac{1}{2}$ E	6 11 9 $\frac{1}{2}$		7 55	13 45	
♂ ——— 25	10 32 $\frac{1}{2}$	N 77 20 $\frac{1}{2}$ E	6 10 42 $\frac{1}{2}$		7 56	14 30	
♂ ——— 26	3 24 $\frac{1}{2}$	N 56 48 $\frac{1}{2}$ W	12 10 54 $\frac{1}{2}$		7 50 $\frac{1}{2}$	14 37	Knight's compaſs Gregory's ditto
♂ ——— 27	Amphic	N 57 20 W	1 11 21 $\frac{1}{2}$		7 7 $\frac{1}{2}$	15 6	
♂ ——— 28	Ditto	N 57 16 W	1 11 7 $\frac{1}{2}$		6 45 $\frac{1}{2}$	16 55	
♂ ——— 29	5 22 $\frac{1}{2}$	N 55 46 $\frac{1}{2}$ W	6 11 6 $\frac{1}{2}$		6 29	18 55	
♂ June 1	11 33 $\frac{1}{2}$	N 75 49 $\frac{1}{2}$ E	6 10 9 $\frac{1}{2}$		6 4 $\frac{1}{2}$	21 8	Ship's compaſs Knight's ditto.
♂ ——— 2	9 8 $\frac{1}{2}$	N 75 47 $\frac{1}{2}$ E	6 9 39 $\frac{1}{2}$		5 43 $\frac{1}{2}$	23 15	
♂ ——— 3	14 25 $\frac{1}{2}$	N 74 1 $\frac{1}{2}$ E	6 9 8		5 14 $\frac{1}{2}$	25 35	
♂ ——— 4	10 12 $\frac{1}{2}$	N 73 41 $\frac{1}{2}$ E	6 8 11 $\frac{1}{2}$		5 1	27 35	
♂ ——— 5	8 32	N 72 50 $\frac{1}{2}$ E	6 6 44 $\frac{1}{2}$		3 59	29 10	Very cloudy
♂ ——— 6	8 4 $\frac{1}{2}$	N 71 57 $\frac{1}{2}$ E	6 5 47 $\frac{1}{2}$		3 43 $\frac{1}{2}$	31 35	
♂ ——— 7	6 57 $\frac{1}{2}$	N 70 39 $\frac{1}{2}$ E	10 4 22 $\frac{1}{2}$		2 24	32 12	
♂ ——— 8	8 58 $\frac{1}{2}$	N 70 49 $\frac{1}{2}$ E	8 4 51 $\frac{1}{2}$		1 34	32 0	
♂ ——— 9	8 56 $\frac{1}{2}$	N 69 45 $\frac{1}{2}$ E	9 3 40 $\frac{1}{2}$		0 35 $\frac{1}{2}$	32 0	
♂ ——— 10	9 11 $\frac{1}{2}$	N 67 41 $\frac{1}{2}$ E	8 1 25 $\frac{1}{2}$		0 13 $\frac{1}{2}$	31 50	
♂ ——— 11	17 57 $\frac{1}{2}$	N 62 41 $\frac{1}{2}$ W	6 1 37 $\frac{1}{2}$		1 27 $\frac{1}{2}$	31 40	
♂ ——— 12	16 3 $\frac{1}{2}$	N 64 34 $\frac{1}{2}$ W	6 0 23 $\frac{1}{2}$		2 13	31 36	
♂ ——— 13	6 36 $\frac{1}{2}$	N 66 43 $\frac{1}{2}$ E	6 0 14 $\frac{1}{2}$		4 23 $\frac{1}{2}$	31 28	
♂ ——— 14	13 1 $\frac{1}{2}$	N 64 51 $\frac{1}{2}$ W	8 1 2		4 36 $\frac{1}{2}$	31 20	
♂ ——— 15	14 2 $\frac{1}{2}$	N 66 37 $\frac{1}{2}$ E	8 0 39 $\frac{1}{2}$		5 11 $\frac{1}{2}$	30 14	
♂ ——— 16	17 10	N 64 22 W	10 1 25		6 14	30 1	
♂ ——— 17	9 11	N 68 9 $\frac{1}{2}$ E	7 1 22 $\frac{1}{2}$		6 59 $\frac{1}{2}$	30 10	
♂ ——— 18	17 25 $\frac{1}{2}$	N 63 59 $\frac{1}{2}$ W	6 2 21 $\frac{1}{2}$		7 53 $\frac{1}{2}$	30 40	
♂ ——— 19	10 36 $\frac{1}{2}$	N 69 20 E	4 2 13 $\frac{1}{2}$		9 9	32 18	
♂ ——— 20	17 13 $\frac{1}{2}$	N 65 33 $\frac{1}{2}$ W	12 1 26 $\frac{1}{2}$				
♂ ——— 21	10 65 $\frac{1}{2}$	N 62 8 $\frac{1}{2}$ W	8 5 11 $\frac{1}{2}$				
♂ ——— 22	10 58 $\frac{1}{2}$	N 61 45 W	1 5 32				
♂ ——— 23	9 27 $\frac{1}{2}$	N 71 33 $\frac{1}{2}$ E	8 4 16				
♂ ——— 24	9 34 $\frac{1}{2}$	N 72 12 $\frac{1}{2}$ E	7 4 47 $\frac{1}{2}$				
♂ ——— 25	10 93 $\frac{1}{2}$	N 71 55 $\frac{1}{2}$ E	6 4 14 $\frac{1}{2}$				

1775.		Altitude of the ☉		Magnetic Azimuth of the ☉'s Center.		☉'s ☉'s	Variation Well.	Latitude North.		Longitude * Well.		Observers, and Remarks.
		°	'	°	'			°	'	°	'	
4	June 21.	12	15	N.	71 28	E.	10 3 23	10	47	33	30	
2	— 23.	11	17	N.	72 20	E.	7 3 57	14	13	36	0	
6	— 24.	17	42	N.	65 57	W.	8 3 46	14	56	36	15	
9	— 26.	13	0	N.	65 35	W.	6 3 41	18	15	38	34	
		7	23	N.	72 30	E.	7 4 40	19	8	38	57	
3	— 27.	9	7	N.	64 20	W.	8 4 4	19	57	39	15	
		9	35	N.	72 16	E.	6 3 37	20	50	39	33	
4	— 29.	15	14	N.	65 50	W.	6 5 61	23	36	40	10	
		16	31	N.	77 47	E.	2 6 8	24	42	40	37	
2	— 30.	14	51	N.	65 3	W.	6 6 4	25	36	40	50	
		7	40	N.	73 57	E.	10 5 58	26	34	41	5	
6	July 1.	12	44	N.	64 49	W.	6 5 36	27	33	41	10	
		8	42	N.	75 3	E.	6 6 35	28	13	41	25	
0	— 2.	18	32	N.	80 10	E.	10 6 32	29	42	41	3	
2	— 3.	10	54	N.	77 29	E.	8 7 43	30	52	40	37	
2	— 5.	17	42	N.	64 17	W.	6 9 53	32	38	39	58	
		10	57	N.	79 18	E.	6 9 20	33	2	39	58	
4	— 6.	16	24	N.	64 6	W.	6 9 14	33	10	39	57	
		10	13	N.	79 10	E.	6 9 33	33	22	39	48	
2	— 7.	12	42	N.	62 17	W.	6 8 58	33	39	39	44	
6	— 8.	4	13	N.	55 47	W.	6 9 47	34	18	39	43	
		14	16	N.	81 23	E.	8 10 53	34	52	39	45	
0	— 9.	14	32	N.	62 37	W.	8 10 8	35	11	39	40	
		12	53	N.	81 53	E.	6 10 8	35	28	39	0	
2	— 10.	15	10	N.	62 52	W.	7 10 33	36	0	38	20	
3	— 11.	6	19	N.	54 52	W.	7 12 8	37	9	35	20	
8	— 12.	11	34	N.	59 27	W.	10 5 42	38	13	32	10	
4	— 13.	12	23	N.	55 39	W.	6 10 17	38	33	29	15	
2	— 14.	18	43	N.	81 36	E.	6 21 19	38	31	28	33	
8	— 19.	15	19	N.	80 48	E.	8 17 33	39	8	25	50	
2	— 21.	10	55	N.	56 4	W.	10 16 17	39	26	23	36	
6	— 22.	9	39	N.	54 44	W.	6 16 57	39	51	22	13	
0	— 23.	14	5	N.	57 34	W.	8 17 44	41	12	9	42	
2	— 24.	11	49	N.	50 5	W.	10 13 59	42	29	17	45	
3	— 25.	8	51	N.	59 49	W.	9 20 39	44	6	15	50	
		16	34	S.	79 11	E.	8 21 53	45	5	14	35	
4	— 27.	15	27	N.	59 14	W.	8 19 40	47	32	10	37	
2	— 28.	14	42	N.	58 52	W.	10 19 10	48	27	7	58	
6	— 29.	16	11	N.	60 45	W.	3 19 24	50	6	4	0	
		14	10	N.	58 21	W.	6 19 28					

{ Taken on board the ship in
Fayal Bay. See also p. 140.

ERRATA.

Page 2, in the title to the right-hand Col on the lower part of the page, for *gains* read *loses*
 Page 65 in the title to the right hand Col at the top of the page for *gains* read *loses*
 For page 136 read page 139
 Page 281 Sept 23d Col 6 for 2h 25 55 $\frac{1}{2}$ read 2h 25 25 $\frac{1}{2}$
 Page 282 Oct. 10th Col 3 for 21h 47 $\frac{5}{8}$ read 21h 7 $\frac{33}{8}$
 Page 282 July 20th Col 3, for oh 34 10 read oh 34 40~
 Page 311 Aug 4th Col 10, for 19° 11 $\frac{1}{2}$ read 18 31 $\frac{1}{2}$
 Page 311 Aug 6th Col 10, for 18° 34 $\frac{1}{2}$ read 19 14 $\frac{1}{2}$
 Page 328 Longitude of Cape Noir Col 9, for 287 56 $\frac{1}{2}$, read 286° 56 $\frac{1}{2}$
 In many places *del* o in Mr Bayly's name.